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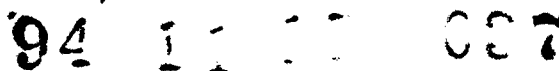
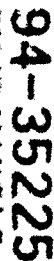


**— COMMITTED TO PROTECTION OF THE ENVIRONMENT —**

## SUMMARY OF OPERATOR KNOWLEDGE OF ROCKY MOUNTAIN ARSENAL STRUCTURES

JULY 1993  
CONTRACT NO DAAA05-92-C-0015

**AGEISS ENVIRONMENTAL, INC**



93200P04  
2ND COPY

**TECHNICAL SUPPORT FOR  
ROCKY MOUNTAIN ARSENAL**



**FINAL**

**SUMMARY OF OPERATOR KNOWLEDGE OF  
ROCKY MOUNTAIN ARSENAL STRUCTURES**

**VERSION 3.2**

**July 1993  
CONTRACT NO DAAA05-92-C-0015**

**TWBS Nos. 1.28 and 1.38**

**Prepared By:**

**AGEISS ENVIRONMENTAL, INC.**

**Prepared For:**

**U.S. ARMY PROGRAM MANAGER FOR  
ROCKY MOUNTAIN ARSENAL**

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Date	
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## LIST OF ABBREVIATIONS/ACRONYMS

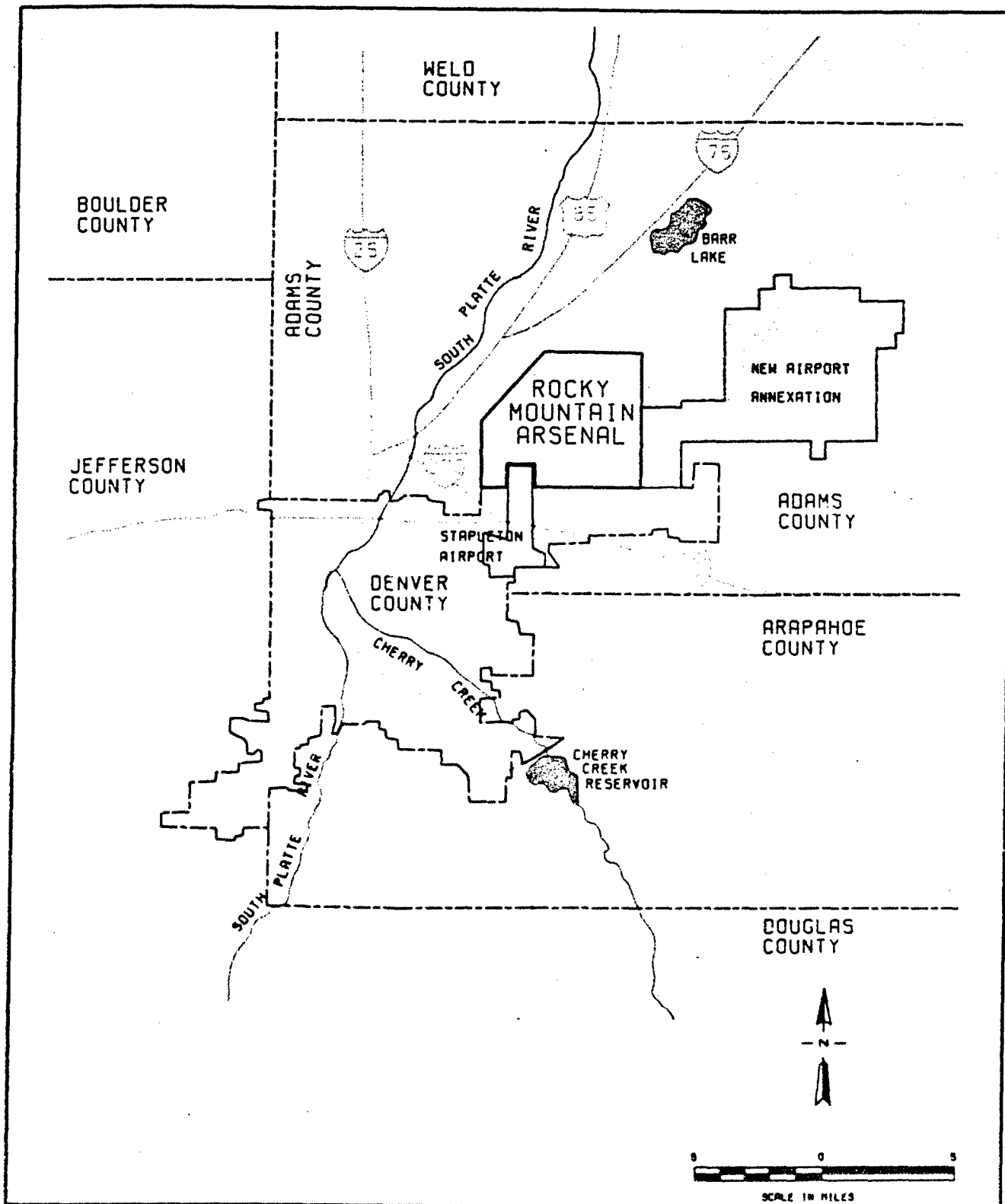
>	Greater than
AB	Asbestos Board
A/C	Asphalt/Composition
ARAR	Applicable or Relevant and Appropriate Requirements
Army	U.S. Army
As	Arsenic
B	Basement
Ba	Barium
Bldg	Building
BR	Brick
C	Concrete
CA	Corrugated Metal with Asbestos
CAIS	Chemical Agent Identification Set
CC	Concrete Columns
Cd	Cadmium
CM	Corrugated Metal
CPMSO	4-Chlorophenylmethyl Sulfoxide
CPMSO2	Chlorophenylmethyl Sulfone
Cr	Chromium
CSA	Central Study Area
Cu	Copper
DBCP	Dibromochloropropane
1,4-DCLB	1,4-Dichlorobenzene
DCPD	Dicyclopentadiene
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
Dibrom	Phosphoric acid 1,2-dibromo-2,2-dichloroethyl dimethyl ester
DIMP	Diisopropylmethyl phosphonate
DMMP	Dimethylmethyl phosphonate
DRMO	Defense Reutilization and Marketing Design
EPA	U.S. Environmental Protection Agency
ESA	Eastern Study Area
FB	Fiber Board
FG	Fiberglass
FS	Feasibility Study
ft	foot or feet
FU	Future Use
GB (or Sarin)	Isopropyl methylphosphonofluoridate
GF	O-cyclohexyl methylphosphonofluoridate
HD	Mustard
Hg	Mercury
in	inch(es)
IRA	Interim Response Action
lb	pound(s)
LW	Lewisite

## LIST OF ABBREVIATIONS/ACRONYMS (Continued)

MB	Masonry Block
mm	millimeter(s)
NA	Not available
NCSA	North Central Study Area
NN	No Number
No.	Number
NPSA	North Plants Study Area
NSC	No Surficial Soil Samples collected within 1,000 feet of building
OHM	O.H. Materials Corporation
Pb	Lead
PCB	Polychlorinated biphenyl
P/D	Plaster/Drywall
PMRMA	U.S. Army Program Manager for Rocky Mountain Arsenal
PMAMR	Project Manager Rocky Mountain Arsenal
PW	Concrete Perimeter Wall
RCRA	Resource Conservation and Recovery Act
RMA	Rocky Mountain Arsenal
S	Steel
SM	Sheet Metal
smv	standing material volume
SOP	Standard Operating Procedure
SPSA	South Plants Study Area
SSA	Southern Study Area
ST	Structural Tile
TC	Thionyl chloride
TCLP	Toxicity Characteristic Leaching Procedure
TNT	2,4,6-Trinitrotoluene
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VX	Methylphosphonothioic acid S-[2-[(bis(1-methylethyl)amino)ethyl] O-ethyl ester
WC	Wood Columns
WD	Wood
WSA	Western Study Area
yd <sup>3</sup>	cubic yard
Zn	Zinc

## INTRODUCTION

This report presents a summary of operator knowledge of Rocky Mountain Arsenal (RMA) structures, and is intended to provide information for use in their remediation through implementation of the Feasibility Study Detailed Analysis of Alternatives or as part of the Interim Response Actions. Operator knowledge (i.e., records and data pertaining to past operations in RMA facilities) will be used to assess the preliminary hazardous nature of each structure, and to determine sampling and demolition strategies for the structures. It has been obtained from historical information, existing sampling data, visual inspection of structures, and knowledge of the waste stream gained through pilot-scale or treatability studies.



Prepared for:

U.S. Army Program Manager  
for Rocky Mountain Arsenal

Figure 1

Location Map of  
Rocky Mountain Arsenal

Prepared by: AGEISS Environmental Inc.

PROGRAM	DESCRIPTION	RELEVANT REPORTS
Task 2 Dust Sampling	Results of samples collected from 80 structures in South Plants in 1985. Results reported in Task 24 Structures Survey.	Ebasco, 1985a/RTIC 87006R01
Task 24 Structures Survey	Survey conducted in 1987 that identified 982 structures on RMA, 524 of which were buildings or foundations. Each was assigned one of the following types according to past or current use with the highest potential for contamination: process, chemical storage, warehouse, administration, maintenance, utility, or laboratory. Limited sampling was conducted, and the presence of asbestos noted.	Ebasco, 1988/RTIC 88306R02
Structures Feasibility Study Development and Screening of Alternatives	Includes consideration of the concurrent efforts of the Expert Panel on Building Sampling. Developed alternatives to include a range of options, based on ARARs and structure medium type. Alternatives were screened based on effectiveness, implementability, and cost; and address the range of contaminant and structure types expected at RMA. These will be evaluated during the subsequent Detailed Analysis of Alternatives.	Ebasco, 1992b/RTIC 92233R01
Asbestos	Results of asbestos samples collected under Task 2 were reported in Task 24 Structures Survey. Suspected asbestos was noted in the Structures Survey and limited samples collected. A survey of 32 structures was conducted in 1989 by Ebasco. In 1988 and 1989, OHM conducted an IRA for asbestos removal under Task 5; abatement was conducted on 10 structures. As part of the Hydrazine Blending and Storage Facility IRA, asbestos was decontaminated prior to removal. Under Task 5, asbestos-containing material was surveyed, sampled, and quantified in 486 structures, 19 miles of pipe runs, and over 15,000 pipe fittings, gaskets, etc. Currently, 44 buildings in South Plants containing friable asbestos are being remediated. <sup>1</sup>	Ebasco, 1985a/RTIC 87006R01 Ebasco, 1988/RTIC 88306R02 Ebasco, 1991a/RTIC 91063R01 OHM, 1989/RTIC 90009R04 HLA, 1991b/RTIC 91222R01 Weston, 1992/RTIC 92118R01
OP for Disposal of Contaminated Buildings	Describes procedures for demolition and disposal of nine buildings in South Plants. Procedures include identification of potential contaminant, sampling and sample analysis, personnel protection, safety and medical, material handlings, decontamination, disposal, and monitoring. Does not include process equipment.	El Dorado Engineering, Inc., 1984/RTIC 85247R12
Decontamination of Salt Container Storage Buildings and Sheds	In 1986, 73,909 drums containing incinerator salts and chemically neutralized salts were transported to an off-site landfill. The salt container storage buildings were then dismantled, stacked, and stored in the former Toxic Storage Yard. The soil underneath and surrounding their former locations was sampled and analyzed.	Ebasco, 1985b/RTIC 85329R01
Storage Tank Survey Assessment	A detailed survey of all above ground and underground storage tanks at RMA (including those inside and under structures) was completed in January 1992. The survey included location, operational history, integrity, current status, historical releases, and potential for environmental impact from known or suspected leaks. The assessment included some 1,500 underground storage tanks, with some content samples collected.	

Trautmann, 1992  
Stockman, 1992a  
Barbieri, 1992  
Rondinella, 1992  
Stockman, 1992b

is Applicable or Relevant and Appropriate Requirements  
U.S. Environmental Protection Agency  
Feasibility Study  
is (Sarin) Isopropyl methylphosphonofluoridate  
Mudan  
Interim Response Action  
Lewsite  
O.H. Materials Corporation

PCB  
PMRMA  
ppm  
RMA  
SOP  
TCLP  
VX

Polychlorinated biphenyl  
U.S. Army Program Manager for Rocky Mountain Arsenal  
parts per million  
Rocky Mountain Arsenal  
Standard Operating Procedure  
Toxicity Characteristic Leaching Procedure  
Methylphosphonothioic acid S-[2-[bis(1-methylethyl)amino]ethyl]O-ethyl ester

PROGRAM	DESCRIPTION	RELEVANT REPORTS
Polychlorinated Biphenyl Inventory	A presampling survey was conducted to identify prospective sampling sites. 75 soil, liquid, sludge, asphalt, and concrete samples were then collected from 17 structures; 10 samples contained concentrations of PCBs above the reporting limit. In early 1993, PCBs detected above 50 ppm will be remediated in areas where people are currently working. This will involve Building 321 in South Plants, and Building 1703 in North Plants. <sup>2</sup>	Ebasco, 1990/RTIC 91337R04V1
Hydrazine Blending and Storage Facility IRA	Decommissioning included an inventory and asbestos survey; and decontamination, dismantling and disposal of structures and equipment. The wastewater generated during these activities was transferred to Pond A and will be incinerated with the former Basin F liquids.	HLA, 1991a/RTIC 91092R01 PMRMA, 1988/RTIC 88329R02 HLA, 1991c/RTIC 91248R01
Hot Gas Decontamination	Battelle has recommended that the pits used for the demilitarization of HD products in Building 537 be used for a demonstration of this process in February 1993. A pilot test was conducted at Dugway Proving Ground, UT in July 1987, where structure materials were spiked with mustard. The mustard was volatilized from the surfaces, and no residual contamination was detected.	Battelle, 1989b Battelle, 1987/RTIC 91310R04 Battelle, 1989a/RTIC 91310R04 SUP
Chemical Process-Related Activities and Pipeline Sampling and Analysis	An IRA is currently being conducted to sample chemical agent process equipment/piping; decontaminate if above the reporting limit; and dismantle in preparation for removal/disposal. These activities began in North Plants in November 1991, and are scheduled for completion in December 1993. Operations in South Plants are scheduled to begin in 1993. <sup>3</sup> The Chemical Process Equipment IRA was recently expanded to include nonagent equipment and piping. Removal will begin in 1993. <sup>4</sup>  One-ton containers will be sampled for GB, HD, VX, and LW, and will be decontaminated if agent vapor concentrations are above the prescribed limits. Decontamination will then be verified by sampling. Operations began in November 1991, and are scheduled for completion in December 1993.	TVA, 1991a/RTIC 91337R02 TVA, 1991b/RTIC 91331R03 TVA, 1991c/RTIC 91331R04
Sanitary and Chemical Sewers and the Process Water System	These systems were investigated under Task 10 to assess the nature and extent of soil contamination resulting from their use. The Sanitary Sewer IRA was then implemented to prevent the spread of contamination through the system. The preferred alternative for North Plants was rehabilitation in place; and for South Plants, abandonment in place. A new force main sanitary sewer was constructed, and select manholes were closed. The IRA was closed out in the fall of 1992. <sup>5</sup>	Ebasco, 1987b/RTIC 87336R03 PMRMA, 1989/RTIC 89100R02 Weston, 1990/RTIC 90232R01

Trautmann, 1992  
Stockman, 1992a  
Barbieri, 1992  
Rondinella, 1992  
Stockman, 1992b

.As	Applicable or Relevant and Appropriate Requirements	PCB	Polychlorinated biphenyl
(or Sarin)	U.S. Environmental Protection Agency	PMRMA	U.S. Army Program Manager for Rocky Mountain Arsenal
	Feasibility Study	ppm	parts per million
	Isopropyl methylphosphonofluoridate	RMA	Rocky Mountain Arsenal
	Mustard	SOP	Standard Operating Procedure
	Interim Response Action	TCLP	Toxicity Characteristic Leaching Procedure
	Lewisite	VX	Methylphosphonothioic acid S-[2-[bis(1-methylethyl)amino]ethyl]O-ethyl ester
A	O.H. Materials Corporation		

PROGRAM	DESCRIPTION	RELEVANT REPORTS
Cultural Resource Reconnaissance Survey	A survey is being initiated at RMA pursuant to Federal preservation legislation and associated regulations for remedial activities. A comprehensive (Class I) literature and records search, review of previous historical surveys, and general documentation regarding the area has been conducted. The field investigation has been proposed, but not yet initiated.	
Future Use Structures Sampling and Analysis Protocol	A sampling and analysis protocol is being developed for future use structures to provide quantitative analytical data in support of the Structures FS Detailed Analysis of Alternatives. A panel of national experts has been assembled to assist in developing an unbiased protocol. A Structures Monitoring Protocol has been issued as a companion to this report.	AGEISS, 1993a
Future Use Structures Pilot Study	Systematic composite sampling was completed in June 1992 for RMA Structures 373 J, 616, 326, 534, 1611, and 515 to determine the types and concentrations of RMA target analytes potentially present in structure materials. Structure matrices were sampled as multi-aliquot composite samples representing a maximum standing material volume of 500 cubic yards. The components of each composite were mixed in a way that properly represented the structure. Target analytes were selected based on the chemical histories of the structures. TCLP extractions were conducted on all composite samples and analyzed using EPA methods or PMRMA-certified methods for water. Sampling results are summarized in the pilot study report. The report also discusses the occupational health and safety of demolition workers, field spike procedures and resulting data, and recommended changes to the protocol.	Woodward-Clyde, 1993b/RTIC 93095R01
Structures Monitoring Protocol	A sampling and analysis protocol is being developed to provide quantitative analytical data for evaluating potential occupational exposure in structures affected by remedial activities at RMA. A panel of national experts has been assembled to assist in developing an unbiased protocol.	AGEISS, 1993b
Future Use Structures Pilot Study	Air, dust and wipe sampling was completed in July 1992 for RMA Structures, 311, 321, 331, 612, and 1701. Sampling results are summarized in a pilot study report. The report also discusses the practicality and economy of the protocol, and proposed revisions.	Woodward-Clyde, 1993a/RTIC 93095102

Trautmann, 1992  
 Stockman, 1992a  
 Barbieri, 1992  
 Rondinella, 1992  
 Stockman, 1992b

Rs Applicable or Relevant and Appropriate Requirements  
 U.S. Environmental Protection Agency  
 Feasibility Study  
 Isopropyl methylphosphonofluoridate  
 Mustard  
 Interim Response Action  
 Lewisite  
 O.H. Materials Corporation

PCB  
 PMRMA  
 ppm  
 RMA  
 SOP  
 TCLP  
 VX

Polychlorinated biphenyl  
 U.S. Army Program Manager for Rocky Mountain Arsenal  
 parts per million  
 Rocky Mountain Arsenal  
 Standard Operating Procedure  
 Toxicity Characteristic Leaching Procedure  
 Methylphosphonothioic acid S-[2-[bis(1-methylethyl)amino]ethyl]O-ethyl ester

MATERIALS	PROGRAM	REPORT(S)
Asbestos	Sampling	RTIC 89062R03 O.H. Materials Corp. 1989, January. Asbestos Sampling Report for Rocky Mountain Arsenal in Commerce City, Colorado.
	Survey	RTIC 91063R01 Ebasco (Ebasco Services Inc.) 1991, May. Final Asbestos Survey of 32 Structures, ver. 3.1.  RTIC 92118R01 Weston (Roy F. Weston Inc.) 1992, April. Survey of Asbestos Containing Materials at Rocky Mountain Arsenal Final, ver. 3.0.  RTIC 91326R01 Weston. 1991, September. Final Technical Plan Task 005. Survey of Asbestos Containing Materials, ver. 3.1.
	Interim Response Action	RTIC 90349R03 O.H. Materials Corp. 1989, April. Final Interim Response Action Report Asbestos Removal Phase-I-Assessment, ver. 3.0.  RTIC 89222R02 O.H. Material Corp. 1989, July. Final Interim Response Action Technical Plan Asbestos Removal Phase-II-Removal, ver. 3.0.  RTIC 90009R04 O. H. Material Corp. 1989, December. Interim Response Action Final Report Asbestos Removal Phase-II-Removal, ver. 3.0.

MATERIALS	PROGRAM	REPORT(S)
Dust	Comprehensive Monitoring Program	<p>RTIC 88174R01 ESE (Environmental Science and Engineering). 1988, May. Air Remedial Investigation, Task 10, Air Monitoring, Draft Final Report, ver. 2.0.</p> <p>RTIC 83020R02 SRI International. 1982, April. Construction Development and Testing of an Automatic Continuous Air Monitoring System (ACAMS) for Use at the Chemical Munitions Disposal System (CAMDS) Final Report.</p> <p>RTIC 89135R06 Stollar (Robert L. Stollar Associates). 1988, February. Comprehensive Monitoring Program, Draft Field Procedure Manual.</p> <p>RTIC 88340R01 Stollar. 1988, August. Comprehensive Monitoring Program Air Quality Draft Final Technical Plan.</p> <p>RTIC 90190R01 Stollar. 1990, May. Comprehensive Monitoring Program, 1988 Air Quality Data Assessment Report Final, vol. I and II, ver. 2.1.</p>
	Remedial Investigation	<p>RTIC 88203R02 ESE. 1987, February. Rocky Mountain Arsenal Task Number 10, Air Monitoring, Final Technical Plan, vol. I and II.</p> <p>RTIC 88263R01 ESE. 1988, August. Air Remedial Investigation Task Number 10, Air Monitoring Final Report, vol. I and II, ver. 3.1.</p>

MATERIALS	PROGRAM	REPORT(S)
Dust (Continued)	Interim Response Action	RTIC 91347R01 Ebasco. 1991, July. Interim Response Action F Air Quality Monitoring Program Final Report, ver. 2.0.
		RTIC 90009R01 PMRMA (Program Manager for the Rocky Mountain Arsenal). 1989, December. Implementation Document for the Application of Dust Suppressant at Basin A, Section 36 of Rocky Mountain Arsenal, Interim Response Action Draft.
		RTIC 91122R01 PMRMA. 1991, April. Implementation Document for the Application of Dust Suppressant at Basin A, Section 36 of Rocky Mountain Arsenal, Interim Response Action.
	Basin A Study	RTIC 89116R01 ESI (Engineering Sciences, Inc.) 1988, March. Data Report for the Health and Safety and Air Monitoring Program for the SIP Engineering Basin F Tankage Project at the Rocky Mountain Arsenal.
PCB	Study	RTIC 82160R09 Rocky Mountain Arsenal. Undated. Identification of Airborne Pollutants from Waste Basins on Rocky Mountain Arsenal.
		RTIC 91333R07 Envirex, Inc. 1975, December. Laboratory Study of the Release of Pesticide and PCB Material to the Water Column During Dredging and Disposal Operations.
	Inventory	RTIC 91337R03 Ebasco. 1990, March. Polychlorinated Biphenyl (PCB) Inventory, Final Work Plan.
Process Equipment and Piping	Contamination Assessment Study	RTIC 91337R04 V.1 Ebasco. 1990, November. Polychlorinated Biphenyls (PCB) Inventory Group III Buildings, Final.
		RTIC 88256R04 Ebasco. 1988, August. Final Contamination Assessment Report, Process Water System, Task Number 10, ver. 3.2.

Table 2. Structures Related Programs.

MATERIALS	PROGRAM	REPORT(S)
	Sewers and Process Water Investigations	RTIC 87336R03 Ebasco. November, 1987. Sewers and Process Water System Investigations. Task Number 10, Final Technical Plan, ver. 3.1.
		RTIC 91337R02 Tennessee Valley Authority (TVA). April, 1991. Proposed Chemical Process - Related Activities at Rocky Mountain Arsenal.
	Decontamination & Dismantling of Process Related Equipment	RTIC 91337R03 TVA. 1991, October. Final Implementation Document for Decontamination & Dismantling of Chemical Process Related Equipment at Rocky Mountain Arsenal.
	Contamination Assessment Study	RTIC 88077R06 Ebasco. 1988, February. Contamination Assessment Report Chemical Sewers - North Plants and South Plants, Task Number 10, Draft Final, ver 2.1.
		RTIC 88286R08 Ebasco. 1988, September. Final Contamination Assessment Report Chemical Sewers North Plants and South Plants, Task Number 10, ver 3.2.
	Proposed Activities	RTIC 88103R02 ESE. 1988, March. Contamination Assessment Report, Phase 1, Site 26-1. Deep Disposal Well and Chemical Sewers, Task Number 6, Sections 26 and 35, Final, ver. 3.2.
		RTIC 91337R02 TVA. 1991, April. Proposed Chemical Process-Related Activities at Rocky Mountain Arsenal.
	Decontamination and Dismantling	RTIC 91331R03 TVA. 1991, October. Final Implementation Document for Decontamination and Dismantling of Chemical Process Related Equipment at North Plants at Rocky Mountain Arsenal.
Sewers - Sanitary	Investigations	RTIC 87336R03 Ebasco. 1987, November. Sewers and Process Water Systems Investigations, Task Number 10, Final, Technical Plan, ver 3.1.

MATERIALS	PROGRAM	REPORT(S)
	Response Action	<p>HTIC 88328R01 Ebasco 1988, August Sanitary Sewer Remediation Interim Response Action Alternatives Assessment, Draft Final</p> <p>RTIC 90289R01 Ebasco 1990, October Sanitary Sewer Interim Response Action Final Risk Assessment, ver 3 2</p> <p>RTIC 89100R02 PMRMA 1989, April Final Decision Document for the Sanitary Sewer System Interim Response Action at the Rocky Mountain Arsenal</p> <p>HTIC 90032R05 Weston 1990, January Rocky Mountain Arsenal Sanitary Sewer Interim Response Action Draft Implementation Plan, vol I and II</p> <p>HTIC 90232R01 Weston 1990 May Rocky Mountain Arsenal, Sanitary Sewer Interim Response Action Final Implementation Plan, vol I and II</p>

MATERIALS	PROGRAM	REPORT(S)
Storage Tanks	Hydrogeologic Study	<p>RTIC 89216R01 MKE (Morrison-Knudsen Engineers, Inc.). 1989, July. Report of Hydrogeologic and Water Quality Investigations in the South Tank Farm Plume, Section 2, Rocky Mountain Arsenal.</p> <p>RTIC 89264R01 MKE. 1989, September. Report of the Investigation of the LNAPL Plume Near Tank 464A, Section 1, Rocky Mountain Arsenal.</p> <p>RTIC 92204R01 MKE. 1992, July. Annual Groundwater Quality Monitoring Report, Other Contamination Sources Interim Response Action, South Tank Plume</p> <p>RTIC 91100R01 Shell Oil Company. 1991, January. Laboratory Studies on Biodegradation of Organics in the South Tank Farm Plume (STFP) Aquifer, Soil, and Microbiological Analysis of STFP Aquifer Core Samples</p>

MATERIALS	PROGRAM	REPORT(S)
Storage Tank (Continued)	Interim Response Action	<p>RTIC 90102R01 MKE. 1990, March. Final Alternatives Assessment Other Contamination Source Interim Response Action, South Tank Farm Plume.</p> <p>RTIC 90262R01 MKE. 1990, August. Final Alternatives Assessment Other Contamination Source Interim Response Action, South Tank Farm Plume.</p> <p>RTIC 91002R06 MKE. 1990, December. Results of the Verification Monitoring Program, South Tank Farm Plume Interim Response Action.</p> <p>RTIC 91122R02 MKE. 1991, May. Final Decision Document Other Contamination Sources Interim Response Action, South Tank Farm Plume.</p> <p>RTIC 91298R01 MKE. 1991, August. Implementation Document Other Contamination Sources, Interim Response Action, South Tank Farm Plume, Final.</p> <p>RTIC 90349R02 Shell Oil Company. 1990, October. Tank Removal for the M-1 Settling Basins Work Plan.</p> <p>RTIC 91331R04 TVA. 1991, October. Implementation Document for Decontamination and Sampling of One Ton Containers at Rocky Mountain Arsenal, Final.</p>

MATERIALS	PROGRAM	REPORT(S)
Surtical Soils and Spills	Contamination Assessment Study	<p>RTIC 7336R06 Ebasco. 1987, November. Program for Army Spill Sites, Phase I, Task Number 24, Final Technical Plan, vol. 1, ver. 3.2.</p> <p>RTIC 88076R04 Ebasco. 1988, March. Contamination Assessment Report, Site 3-4, Nemagon Spill Area, Task Number 20, Lower Lakes, Final, ver. 3.3.</p> <p>RTIC 88076R04A Ebasco. 1988, March. Phase II Data Addendum Site 3-4, Nemagon Spill Area, Task Number 20, Lower Lakes, Final, ver. 3-1.</p> <p>RTIC 88286R07 Ebasco. 1988, July. Final Contamination Assessment Report, Sites 1-13 &amp; 2-18, South Plants Manufacturing Complex, Shell Company Spill Sites, Task Number 2, South Plants.</p> <p>RTIC 88286R10 Ebasco. 1988, September. Final Phase I Data Presentation Report, Army Spill Sites, South Plants Manufacturing Complex, Task Number 24, ver. 3.2.</p> <p>RTIC 93063R01 ESE. 1988, January. Contamination Assessment Report, Site 36-5, Mercury Spill, Task Number 7, Section 35, Final, ver. 3.3.</p> <p>RTIC 92035R01 HWS Technologies, Inc. 1988, October. Revised Proposal for Monitoring and Remediation of a Jet Spill at Concourse D, Stapleton International Airport.</p>

MATERIALS	PROGRAM	REPORT(S)
Surficial Soils and Spills (Continued)	Remedial Investigation	RTIC 89166R03 Ebasco. 1989, May. Final Remedial Investigation Report, vol. XII, Western Study Area, Final, ver. 3.3.
		RTIC 89166R02 Ebasco. 1989, June. Final Remedial Investigation Report, vol. VII, Eastern Study Area, Final, ver. 3.3.
		RTIC 89166R02 Ebasco. 1989, June. Final Remedial Investigation Report, vol. VI, Southern Study Area, Final, ver. 3.3.
		RTIC 89166R06 Ebasco. 1989, July. Final Remedial Investigation Report, vol. X, Central Study Area, Final, ver. 3.3.
		RTIC 89166R07 Ebasco. 1989, July. Final Remedial Investigation Report, vol. XI, North Central Study Area, Final, ver. 3.3.
		RTIC 89166R05 Ebasco. 1989, July. Final Remedial Investigation Report, vol. IX, North Plants Study Area, Final, ver. 3.3.
		RTIC 89166R04 Ebasco. 1989, July. Final Remedial Investigation Report, vol. VIII, South Plants Study Area, Final, ver. 3.3.
		RTIC 92017R01 Ebasco. 1992, January. Final Remedial Investigation Summary Report, ver. 3.2.
		RTIC 91121R01 Ebasco. 1991, April. Final Surficial Soil Program Data Summary, ver. 3.1.
	Surficial Soils	

Table 2. Structures Related Programs.

MATERIALS	PROGRAM	REPORT(S)
Surficial Soils and Spills (Continued)	Human Health Exposure Assessment	RTIC 90227R01 Ebasco. 1990, September. Final Human Health Exposure Assessment for Rocky Mountain Arsenal, ver. 4.1.
	Control and Counter-measure Plan	RTIC 91322R07 HAZWAP. 1990, May. Rocky Mountain Arsenal Installation Spill Contingency Plan and Spill Prevention and Control, and Countermeasure Plan.
Utility Lines	Property Inventory and Survey	RTIC 87047R01 Harding Lawson Associates. 1982, September. Property Inventory and Condition Survey for the Group IV Utility Systems Property, and Group II Chemical Plant Property within the Shell Oil Company Leasehold Area at U.S. Army Rocky Mountain Arsenal.



ble 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA - Subarea	YEAR BUILT/ MAP SECTION	NO OF LEVELS*	ESTIMATED TOTAL AIR VOLUME* (yd <sup>3</sup> )	EST. MILES TOTAL SURF* (sq ft)	STRUCTURE MATRICES* (ESTIMATED WARNING FOR ADDRESS IN MATRICES) (VOLUME IN YD <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
116	Bus Stop Shelter/SPSA 1g	42/01	1	59	4	NP	NP	NP	WD (7)	No prior chemical use reported	HISTORICAL None
120	Administration/NCSA	NOTE Built since 1986, additional information available from PMHMA									
121	Administration/NCSA	NOTE Built since 1986, additional information available from PMHMA									
124	Administration/NCSA	NOTE Built since 1986, additional information available from PMHMA									
129	Administration/NCSA	NOTE Built since 1986, additional information available from PMHMA									
130	Administration/NCSA-5a	NOTE Built since 1986, additional information available from PMHMA									
132	Remediation Use Structure	NOTE Built since 1986, additional information available from PMHMA									
135	Guard House/WSA	NOTE Built since 1986, additional information available from PMHMA									
136	Garage to 134/NCSA	47/35	0	3	3	NP	NP	NP	C (4) [7]	No prior chemical use reported	HISTORICAL None
137	Garage to 131/NCSA	47/35	0	3	3	NA	NA	NA	NA	No prior chemical use reported	HISTORICAL None
143	West Gate Guardhouse Security/WSA	61/04	1	62	23	A/C (1) [1]	MH (6) [7]	NA	C [7]	No prior chemical use reported	HISTORICAL No historically associated chemicals  SAMPLING Surface Soil (0 - 2 in) DDT, dieldrin, isodrin Surface Soil (0 - 2 in) DDT, dieldrin, isodrin, heptachlor, heptachlor epoxide, isodrin, lead, zinc
145	South Gate Guardhouse Security/SSA	60/11	1	54	46	A/C [2]	BR (4) [6]	NA	C [11]	The building had a liquid propane gas heating system	HISTORICAL Liquid propane  SAMPLING Surface Soil (0 - 2 in) NSC Surface Soil (0 - 2 in) NSC
148	Storage/Pass Office northwest of 166/NCSA	43/24	1	140	1	CM [0 9]	CM [0 9]	NP	NP	Diesel fuel tank occurred near exterior of the building but historical data do not indicate the proximity of the spill to the building	HISTORICAL None

\* A symbol and acronym key is provided on the last page of this table.  
 07/09/00 12:36pm  
 07/09/00 12:36pm

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA, BUILDING)	YEAR BUILT (MAP SECTION)	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME (yd <sup>3</sup> )	ESTIMATED TOTAL MATED (yd <sup>3</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
150	Tennis Courts	54/34	0	120	120	NP	NP	NP	A/C (3)	No prior chemical use reported	HISTORICAL: None
154	Bachelor Officers' Quarters Barracks/WSA	42/34	1	51	51	NP	NP	NP	C (24) [41]	No prior chemical use reported	HISTORICAL: None
155	Barracks and Classrooms - north of 151/NCSA	42/34	0	52	52	NP	NP	NP	C (24) [41]	No prior chemical use reported	HISTORICAL: None
157	Men's Barracks - south of 159/NCSA	42/34	0	54	54	NP	NP	NP	C (24) [41]	No prior chemical use reported	HISTORICAL: None
158	Noncommissioned Officers' Service Club - southwest of 159/WSA	42/34	0	36	36	NP	NP	NP	C (24) [41]	No prior chemical use reported	HISTORICAL: None
162	Noncommissioned Officers' Apartments - southwest of 166/NCSA	42/34	0	37	37	NP	NP	NP	(24) [37]	No prior chemical use reported	HISTORICAL: None
164	Officers' Apartments - west of 166/NCSA	42/34	0	60	60	NP	NP	NP	C (9) [24]	No prior chemical use reported	HISTORICAL: None
169B	Gas Station House - south of 150/WSA	42/34	0	4	4	NP	NP	NP	NA	The building was used by Western Chemical Warfare school as gas chambers and mater pit	HISTORICAL: Gas chambers, gas mater pit
178	Five-Unit Garage and Apartments/WSA	NA03	0	24	24	NP	NP	NP	C (6) [9]	No prior chemical use reported.	HISTORICAL: None

\* A symbol and acronym is provided on the last page of this table.  
 \*NT/ROCHESTER/1403/11/01/04  
 07/09/03, 12, N4pm

with the following results:

### 3. Inventory List of Rocky Mountain Arsenal Structures.

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NUMBER	STRUCTURE DESCRIPTION (STUDY AREA - Subarea)	YEAR BUILT MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (ft <sup>3</sup> )	EST. WATER RESERVE CAPACITY (ft <sup>3</sup> )	STRUCTURE MATERIALS * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE *	POTENTIAL HAZARDOUS CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
242	Chlorine Production/United States Mint Storage/ SPSA-3c, 3e	4302	1	43,000	3,100	A/C (21) [41]	BR (9) [509]	WC (24) [133]	C (24) [10]	Electrolytic cell building which contained a reformer room with cathodes containing Hg. Chlorine and caustic (sodium hydroxide) were used in the plant for processing GB base in an effort to remove fluorides and phosphates. In 1976 a fire ignited a firebox causing minor damage. The Denver Mint used the building as storage for copper penny stock.	HISTORICAL: Hg, chlorine, sodium hydroxide, GB breakdown products (sarcosine, sarcosine, phenolphthalein, methylphenolphthalein, sodium fluoride, phosphoric acid, sodium hydroxide, and sulfuric acid). SAMPLING: Dust - Cd, Cr, Cu, Pb, Zn, P.
243	Chlorine Production Compressor/SPSA-3c, 3e	4202	2B	9,500	1,000	A/C (2) [41]	PW (4) BR (9) [261]	HI (4) [133]	C (24) [10]	Building was used in experiment with oleum (sulfuric acid fuming) and sulfuric acid as a sealing medium. Sulfuric acid also used for the drying of chlorine gas. Ammonia and fluorine were used in the cooling process. Later used for processing GB base and used caustic (sodium hydroxide) and bleach. Spent acid was spilled onto the ground damaging the foundation.	HISTORICAL: Chlorine, GB breakdown products (sarcosine, sarcosine, sarcosine, phenolphthalein, methylphenolphthalein, sodium fluoride, phosphoric acid, sodium hydroxide, and sulfuric acid). SAMPLING: Liquid - Chlorine, Chlorine Dust - Dieldrin, Cr, Cu, Pb, Zn
244	Three Liquid Chlorine Tank Saddles/SPSA-3c	4202	0	30	30	NP	NP	NP	C (15) [10]	Building was used for liquid chlorine storage.	HISTORICAL: AL, Chlorine
245	Subs. Tank/SPSA-3c	4502	1	78	22	WD [1]	BR (8) [15]	NP	C (9) [6]	Built to house transformers and used as an electric substation.	HISTORICAL: PCBs
246	Hydrochloric Acid Production Compressor/SPSA-3e	5102	0	56	56	NP	PW (8) C (8) [34]	CC (24) [1]	C (12) [19]	Shift gas (hydrogen, chlorine, carbon dioxide) was burned in hydrogen to form hydrochloric acid. Chemicals were neutralized with sodium hydroxide for sewer disposal.	HISTORICAL: Hydrochloric acid, shift gas (hydrogen, chlorine, carbon dioxide), sodium hydroxide

A symbol and acronym list is provided on the last page of this table.

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Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE (OR LOCATION) AND STUDY AREA	YEAR BUILT	NO. OF LEVELS	ESTIMATED TOTAL GROSS VOLUME (cu ft)	EST. MAINT. TOTAL GROSS VOLUME (cu ft)	STRUCTURE MATERIALS & ESTIMATED MAINTENANCE THICKNESS (IN INCHES) AND VOLUME (cu ft)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
247	Salt Storage/SPSA 3c	4202	0	130	1110	NP	NP	NP	C (24)	The building acted as raw salt storage for the chrome plant complex. Several tank cars of GB scrubber brine which consisted of sodium chloride, sodium hydroxide, sodium fluoride, phosphorus, sodium methyl phosphate, sodium sulfate, sodium phosphate, sodium carbonate, and isopropyl alcohol were arranged onto the pad at one time. Building was also used as a settling basin for calcium treated brine and clankoculator sludge which consisted of sodium chloride, sodium hydroxide, sodium fluoride, sodium methyl phosphate, calcium chloride, calcium fluoride, calcium methyl phosphate, and calcium carbonate. Sludge discharged along and outflow filter cake onto the salt pad, and stored in drummed waste in building. Aldrin filter cake consists of aldrin, dieldrin, heptachlor, and endrin. Used by Shell as a staging area for oil site drum shipments. Contaminated pipe, wooden pallets, soil, and concrete also stored here.	HISTORICAL: GB breakdown products (isopropylmethyl phosphonate, dimethylmethyl phosphonate, isopropylmethyl phosphonate, methylphosphonic acid, phosphonic acid, isobutyl ester, phosphonic acid, isobutyl ester), GB brine, sodium chloride, sodium hydroxide, sodium fluoride, phosphorus, sodium methyl phosphate, sodium phosphate, sodium sulfate, sodium carbonate, isopropyl alcohol, calcium chloride, calcium butyrate, calcium methyl phosphate, calcium carbonate, aldrin and dieldrin filter cakes, sodium, aldrin, heptachlor, dieldrin, endrin, clankoculator sludge, calcium treated brine, raw salt
248	Brine Treatment Plant SPSA 3c	4202	0	160	180	NP	NP	NP	C (6) [91]	The building was part of the chrome plant used to treat raw brine consisting of sodium carbonate, calcium sulfates, calcium chlorides, magnesium chlorides, and sodium sulfates, in reaction tanks by adding soda ash (sodium carbonate) and solution. Any excess sodium hydroxide in the brine was neutralized with murexide acid. Later GB brine was stored in the tanks.	HISTORICAL: Sodium carbonate, GB breakdown products (isopropylmethyl phosphonate, dimethylmethyl phosphonate, isopropylmethyl phosphonate, methylphosphonic acid, phosphonic acid, isobutyl ester, phosphonic acid, isobutyl ester), GB brine, sodium chloride, sodium hydroxide, sodium fluoride, phosphorus, sodium methyl phosphate, isopropylalcohol, calcium sulfates, calcium chlorides, magnesium chlorides, sodium sulfates, murexide, acid, raw brine

\*NOTE: A separate and more detailed list of chemicals is provided in the Appendix, Table 1.

\*NOTE: SPSA 3c is located in the SPSA 3c area.

\*NOTE: SPSA 3c is located in the SPSA 3c area.

DATE: 06-07-2008  
TIME: 14:00

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (Name and Address)	YEAR BUILT (If Known)	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME (cu ft)	EST. BUILT TOTAL AREA (sq ft)	STRUCTURE MATERIALS (ESTIMATED MAXIMUM PERCENTAGE BY WEIGHT)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	WALLS FOUNDATION	WALLS FOUNDATION	FOUNDATION		
254	Caustic Fusion Plant Drum Storage (SPSA-3a)	43-02	1B	15,000	1,200	CM (100%) [14]	PW (10) AB (11) [14]	CC (114) WD (21) [21]	CC (124) [1119]	Sodium hydroxide received from the evaporator building was concentrated into 100 percent fused sodium hydroxide where it was discharged into shipping drums for the chlorine manufacturing plant. Later used as a warehouse, leaks or spills of chlorine and boric acid occurred. Arsenic, monomethylmercuricacetamide, dieldrin and arsenic were stored here. In 1980, a laboratory analysis of water from a waste pond near the building contained arsenic, dieldrin, and endrin.	HISTORICAL: Monomethylchloro- acetamide, sodium hydroxide, dieldrin, arsenic, endrin, arsenic, dieldrin, endrin, As
255	Fuel Oil Pump Station and Two Fuel Pumps (SPSA-3d)	42-02	1B	170	22	ALC [2]	PW (12) WD (21) [4]	NP	C (12) [16]	The building acted as a pump house and fuel oil storage for chlorine plant. Tanks moved south of building 472 in 1952.	HISTORICAL: Fuel oil
262	Guard Station - northwest of NW 100 SPSA-1g	43-01	0	7	7	NP	NP	NP	C (12) [7]	No prior chemical use reported.	HISTORICAL: None
266	Guard Station - southwest of SPSA-2c	43-01	0	6	6	NP	NP	NP	C (14) [6]	No prior chemical use reported.	HISTORICAL: None
267	Guard Tower SPSA-2e	43-01	0	6	6	NP	NP	NP	C (16) [6]	No prior chemical use reported.	HISTORICAL: None
291	Guard Station - 735 ft west of SPSA-2a	43-02	0	6	6	NP	NP	NP	C (16) [6]	No prior chemical use reported.	HISTORICAL: None
295	Guard Tower - northwest of 112 SPSA	43-02	0	6	6	NP	NP	NP	C (16) [6]	No prior chemical use reported.	HISTORICAL: None
296	Guard Tower SPSA	43-02	0	6	6	NP	NP	NP	C (16) [6]	No prior chemical use reported.	HISTORICAL: None
307	Produce Water Valve and Under PMSA	54-16	0	29	11	S	34 C (14) [6]	NP	C (16) [6]	No prior chemical use reported.	HISTORICAL: None
309	Maintenance Storage south of SPSA-1g	54-01	1	19	19	CM (100%) [1]	CM (100%) [1]	NP	C (14) [1]	No prior chemical use reported.	HISTORICAL: None

\*If a structure and its contents are identified as a potential source of contamination, the structure should be marked with a red "X" and the name of the chemical should be written in the "POTENTIAL ASSOCIATED CHEMICALS" column.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA NAME	YEAR BUILT / YEAR ACQUIRED	NO. OF LEAKS	ESTIMATED TOTAL SOIL VOLUME (cu ft)	EST. WATER TOTAL (gal)	STAIN TUBE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN FEET)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOM	STAIN TUBE MATRICES	SOIL TUBE MATRICES	FOUNDATION		
3111	Swain's Ridge Office Storage Storage-SPSA 3a	42-02	18	2,760	267	A.C. (2) [60]	BH (4) [102]	PD (4) [12]	C (10) [74]	Shed used the building to store core samples from their exploration and production division (later the building was listed as an active storage area with precise contents stored on the building in Table 2)	HISTORICAL Core samples, other historically associated chemicals  SAMPLING Surface Soil (0 - 2 in) NSC  Surface Soil (0 - 2 ft) Aldrin, arsenic, cadmium, chlordane, chlorophenylmethyl sulfide, chlorophenylmethyl sulfone, chlorophenylmethyl sulfonate, chromium, copper, DDE, DDT, DBCP, dieldrin, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc  Subsurface Soil (5 - 20 ft) m-xylene, xylene  Groundwater Benzene, carbon tetrachloride, chloroform, m-xylene, tetrachloroethylene, toluene, trichloroethylene, xylene, 1,1-dichloroethylene  Air Mercury, carbon tetrachloride, chloroform, tetrachloroethylene, copper, zinc  Dust/Vapor Chromium, chromium, copper, lead, zinc, mercury

NOTE: A detailed and comprehensive list of chemicals is provided in the Appendix. The chemicals listed in this table are those that are known to be present in the structures.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA - Subarea	YEAR BUILT MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (m <sup>3</sup> )	EST. MAILED TOTAL VOL. - (m <sup>3</sup> )	STRUCTURE MATRICES - ESTIMATED VOLUMES IN MATRICES (m <sup>3</sup> )				POTENTIAL ASSOCIATED CHEMICALS
						ROOF	EXTENSION WALLS	INTERIOR WALLS	FOUNDATION	
312	Fire Station Headquarters Fire Protection/NCSA	42.36	2	5,300	860	A/C [69]	R1 (8) [200]	P/D R1 [120]	C [313]	<p>No prior chemical use reported</p> <p>HISTORICAL: No historically associated chemicals</p> <p>SAMPLING: Soil: 0 - 2 m. Aldrin, chlordane, DDE, DDT, dieldrin, endrin, hexachlorocyclopentadiene, mercury, isodrin</p> <p>Soil: 10 - 2 m. Aldrin, arsenic, atrazine, cadmium, chlordane, chloroacetic acid, chlorophenylmethyl sulfide, chlorophenylmethyl sulfone, chlorophenylmethyl sulfoxide, copper, DDE, DDT, DCP, DCPD, dieldrin, endrin, furanthen, fluoracetic acid, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, thiodiglycol, zinc</p> <p>Groundwater: Benzene, bicycloheptadiene, carbon tetrachloride, chlorobenzene, chloroform, methyl isobutyl ketone, tetrachloroethylene, trichloroethylene, toluene</p>

NOTE: A symbol and description are provided for the location of the structure.

STRUCTURE NUMBER: 312

Map: 11/19/83, 11/19/83



STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA - Subarea	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (ft <sup>3</sup> )	EST. MAILED ROOMS - (ft <sup>2</sup> )	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN ft <sup>3</sup> )				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
313A	Sewage Pump Station/ SPSA-1a.	NA/01	0	5	2	S	PW (8)	TIP	C (48) [2]	The building was part of the South Plant's Liquid Waste Collection System used for collecting waste from Buildings 313 and 314	HISTORICAL: Chemicals used in Buildings 313 and 314  SAMPLING: Liquid - Chloroform, methylene chloride, tetrachloroethane, calcium, Cr, Cu, Pb, magnesium, potassium, sodium, Zn, As, Hg, triethylalcohol, nontarget compounds  HISTORICAL: Trichloroethylene, Zn oxide, dioxin, sodium hypochlorite, ammonium chloride, ammonium phosphate, sodium carbonate, polyvinyl alcohol, phosphate detergents, tetrachloroethylene, 1,1,2,2-tetrachloroethane, chlorinated paraffin, duponal, polyvinyl chloride, bleach, paraformaldehyde, acetone, sodium hydroxide, chloride of lime, chloroethane, naphtha, ammonium sulphate, formaldehyde, monochlorobenzene, monoclonide, octachlorocarbonyl chloride (both with and without Zn oxide), benzene, thiazic ammonium sulphate
314	Fixed Laundry Service/ SPSA-1a	42/01	1	4,500	660	A/C [52]	ST (8) [103]	MB (6) [94]	C [411]	The building was used as the Army's laundry and clothing treatment plant which received, decontaminated, repaired, laundered, impregnated, dyed, and resued apparel and equipment used to protect personnel working with chemical agents during production, tactical, demilitarization, and disposal operations. The building also housed a laboratory. The following chemicals were used: tetrachloroethylene or 1,1,2,2-tetrachloroethane, chlorinated paraffin, dioxin, duponal, polyvinyl alcohol, octachlorocarbonyl chloride (both with and without Zn oxide), sodium hypochlorite or paraformaldehyde, acetone, ammonium sulphate, benzene, nitrochloride, bleach, sodium hydroxide soda, chloride of lime, chloroethane, ammonium phosphate, dibasic ammonium sulphate, formaldehyde, monochlorobenzene, naphtha, soda ash (sodium carbonate), and tetrachloroethane. Although mentioned, specific use or occurrence of ammonium chloride, polyvinyl chloride and trichloroethylene are not described in Task 24	
315	Warehouse/Laundry/SPSA-1a	42/01	1	6,500	980	A/C (2) [205] CM (2) [48]	WC (8)	ST [68]	C (6) [658]	The building stored approximately 160 55-gallon drums of tetrachloroethylene contaminated with GIB, other specific contents unavailable in Task 24	HISTORICAL: GB breakdown products (bis(2-chlorophenyl) phosphonate, dimethylphosphonate, hexamethyl phosphonate, phosphonic acid, methyl phosphonate, diethyl phosphonate, ethyl phosphonate, acetyl phosphonate, triethyl phosphonate, and isobutyl ester), tetrachloroethylene

2.  $\frac{1}{2} \log \frac{1}{2}$  and  $\frac{1}{2} \log \frac{1}{2}$  are the probabilities of the two outcomes of the first trial.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA - Subarea	YEAR BUILT MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (ft <sup>3</sup> )	EST. MAINTAINED VOLUME * (ft <sup>3</sup> )	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN FT <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
315A	Steam Meter Pit - west of 315/SPSA-1g	51/01	1B	22	7	A/C (2) [7]	MB (8) [5]	NP	C (8) [1]	No prior chemical use reported	HISTORICAL: No historically associated chemicals  SAMPLING: Soil (0 - 2 in): NSC  Soil (0 - 2 ft): Aldrin, arsenic, atrazine, cadmium, chlordane, chloroacetic acid, chlorophenylmethyl sulfide, chlorophenylmethyl sulfone, chlorophenylmethyl sulfonate, chromium, copper, DDE, DDT, DDCP, DCPD, dieldrin, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, thioglycol, zinc  Groundwater: Benzene, carbon tetrachloride, chloroform, m-xylene, tetrachloroethylene, trichloroethylene, toluene, xylenes
316	Plant Dispersing/Change House/SPSA-1a	42/01	1	240	240	A/C (3) [55]	WD (6) [70]	CM (2) [50]	C (8) [59]	The building was used as an infirmary or dispensary (chemicals used unavailable in Task 24)	HISTORICAL: Historically associated chemicals not available  SAMPLING: Dust - Hexachlorocyclopentadiene, styrene, Cd, Cr, Cu, Pb, Zn, As
316A	Mormon Knudsen/Change House/SPSA-1a	66/01	1	2,700	340	A/C (3) [47]	MB (8) [101]	PI (2) [59]	C (8) [162]	A change house which had two locker facilities to separate possible contaminated clothing from personal clothing	HISTORICAL: Not available
317	Vehicle Maintenance/Storage/Offices/SPSA-1a	42/01	1	7,600	450	A/C [90]	AB (0.04) [45]	PI (2) CC (6)	C (6) [313]	The building was utilized as a plant maintenance and electric shop, transportation motor pool shop, and research workshop for a new chemical process (chemical information unavailable in Task 24)	HISTORICAL: Other historically associated chemicals not available  SAMPLING: DUST - Cd, Cr, Cu, Pb, Zn, As
317A	Pipe Shop/Grass/Plastic/SPSA-1a	43/01	0	48	48	NP	NP	NP	C (6) [48]	No prior chemical use reported	HISTORICAL: None
318	Remediation Use Structure	NOTE: Built since 1986, additional information available from EM/IMA									

1E: A symbol and acronym list is provided on the last page of this table.  
SARF/SPSA/SPSA-1a/SPSA-1b/SPSA-1c/SPSA-1d/SPSA-1e/SPSA-1f/SPSA-1g/SPSA-1h/SPSA-1i/SPSA-1j/SPSA-1k/SPSA-1l/SPSA-1m/SPSA-1n/SPSA-1o/SPSA-1p/SPSA-1q/SPSA-1r/SPSA-1s/SPSA-1t/SPSA-1u/SPSA-1v/SPSA-1w/SPSA-1x/SPSA-1y/SPSA-1z/SPSA-1aa/SPSA-1ab/SPSA-1ac/SPSA-1ad/SPSA-1ae/SPSA-1af/SPSA-1ag/SPSA-1ah/SPSA-1ai/SPSA-1aj/SPSA-1ak/SPSA-1al/SPSA-1am/SPSA-1an/SPSA-1ao/SPSA-1ap/SPSA-1aq/SPSA-1ar/SPSA-1as/SPSA-1at/SPSA-1au/SPSA-1av/SPSA-1aw/SPSA-1ax/SPSA-1ay/SPSA-1az/SPSA-1ba/SPSA-1bb/SPSA-1bc/SPSA-1bd/SPSA-1be/SPSA-1bf/SPSA-1bg/SPSA-1bh/SPSA-1bi/SPSA-1bj/SPSA-1bk/SPSA-1bl/SPSA-1bm/SPSA-1bn/SPSA-1bo/SPSA-1bp/SPSA-1bq/SPSA-1br/SPSA-1bs/SPSA-1bt/SPSA-1bu/SPSA-1bv/SPSA-1bw/SPSA-1bx/SPSA-1by/SPSA-1bz/SPSA-1ca/SPSA-1cb/SPSA-1cc/SPSA-1cd/SPSA-1ce/SPSA-1cf/SPSA-1cg/SPSA-1ch/SPSA-1ci/SPSA-1cj/SPSA-1ck/SPSA-1cl/SPSA-1cm/SPSA-1cn/SPSA-1co/SPSA-1cp/SPSA-1cq/SPSA-1cr/SPSA-1cs/SPSA-1ct/SPSA-1cu/SPSA-1cv/SPSA-1cw/SPSA-1cx/SPSA-1cy/SPSA-1cz/SPSA-1da/SPSA-1db/SPSA-1dc/SPSA-1dd/SPSA-1de/SPSA-1df/SPSA-1dg/SPSA-1dh/SPSA-1di/SPSA-1dj/SPSA-1dk/SPSA-1dl/SPSA-1dm/SPSA-1dn/SPSA-1do/SPSA-1dp/SPSA-1dq/SPSA-1dr/SPSA-1ds/SPSA-1dt/SPSA-1du/SPSA-1dv/SPSA-1dw/SPSA-1dx/SPSA-1dy/SPSA-1dz/SPSA-1ea/SPSA-1eb/SPSA-1ec/SPSA-1ed/SPSA-1ee/SPSA-1ef/SPSA-1eg/SPSA-1eh/SPSA-1ei/SPSA-1ej/SPSA-1ek/SPSA-1el/SPSA-1em/SPSA-1en/SPSA-1eo/SPSA-1ep/SPSA-1eq/SPSA-1er/SPSA-1es/SPSA-1et/SPSA-1eu/SPSA-1ev/SPSA-1ew/SPSA-1ex/SPSA-1ey/SPSA-1ez/SPSA-1fa/SPSA-1fb/SPSA-1fc/SPSA-1fd/SPSA-1fe/SPSA-1ff/SPSA-1fg/SPSA-1fh/SPSA-1fi/SPSA-1fj/SPSA-1fk/SPSA-1fl/SPSA-1fm/SPSA-1fn/SPSA-1fo/SPSA-1fp/SPSA-1fq/SPSA-1fr/SPSA-1fs/SPSA-1ft/SPSA-1fu/SPSA-1fv/SPSA-1fw/SPSA-1fx/SPSA-1fy/SPSA-1fz/SPSA-1ga/SPSA-1gb/SPSA-1gc/SPSA-1gd/SPSA-1ge/SPSA-1gf/SPSA-1gg/SPSA-1gh/SPSA-1gi/SPSA-1gj/SPSA-1gk/SPSA-1gl/SPSA-1gm/SPSA-1gn/SPSA-1go/SPSA-1gp/SPSA-1gq/SPSA-1gr/SPSA-1gs/SPSA-1gt/SPSA-1gu/SPSA-1gv/SPSA-1gw/SPSA-1gx/SPSA-1gy/SPSA-1gz/SPSA-1ha/SPSA-1hb/SPSA-1hc/SPSA-1hd/SPSA-1he/SPSA-1hf/SPSA-1hg/SPSA-1hi/SPSA-1hj/SPSA-1hk/SPSA-1hl/SPSA-1hm/SPSA-1hn/SPSA-1ho/SPSA-1hp/SPSA-1hq/SPSA-1hr/SPSA-1hs/SPSA-1ht/SPSA-1hu/SPSA-1hv/SPSA-1hw/SPSA-1hx/SPSA-1hy/SPSA-1hz/SPSA-1ia/SPSA-1ib/SPSA-1ic/SPSA-1id/SPSA-1ie/SPSA-1if/SPSA-1ig/SPSA-1ih/SPSA-1ii/SPSA-1ij/SPSA-1ik/SPSA-1il/SPSA-1im/SPSA-1in/SPSA-1io/SPSA-1ip/SPSA-1iq/SPSA-1ir/SPSA-1is/SPSA-1it/SPSA-1iu/SPSA-1iv/SPSA-1iw/SPSA-1ix/SPSA-1iy/SPSA-1iz/SPSA-1ja/SPSA-1jb/SPSA-1jc/SPSA-1jd/SPSA-1je/SPSA-1jf/SPSA-1jg/SPSA-1jh/SPSA-1ji/SPSA-1jj/SPSA-1jk/SPSA-1jl/SPSA-1jm/SPSA-1jn/SPSA-1jo/SPSA-1jp/SPSA-1jq/SPSA-1jr/SPSA-1js/SPSA-1jt/SPSA-1ju/SPSA-1jv/SPSA-1jw/SPSA-1jx/SPSA-1jy/SPSA-1jz/SPSA-1ka/SPSA-1kb/SPSA-1kc/SPSA-1kd/SPSA-1ke/SPSA-1kf/SPSA-1kg/SPSA-1kh/SPSA-1ki/SPSA-1kj/SPSA-1kk/SPSA-1kl/SPSA-1km/SPSA-1kn/SPSA-1ko/SPSA-1kp/SPSA-1kq/SPSA-1kr/SPSA-1ks/SPSA-1kt/SPSA-1ku/SPSA-1kv/SPSA-1kw/SPSA-1kx/SPSA-1ky/SPSA-1kz/SPSA-1la/SPSA-1lb/SPSA-1lc/SPSA-1ld/SPSA-1le/SPSA-1lf/SPSA-1lg/SPSA-1lh/SPSA-1li/SPSA-1lj/SPSA-1lk/SPSA-1ll/SPSA-1lm/SPSA-1ln/SPSA-1lo/SPSA-1lp/SPSA-1lq/SPSA-1lr/SPSA-1ls/SPSA-1lt/SPSA-1lu/SPSA-1lv/SPSA-1lw/SPSA-1lx/SPSA-1ly/SPSA-1lz/SPSA-1ma/SPSA-1mb/SPSA-1mc/SPSA-1md/SPSA-1me/SPSA-1mf/SPSA-1mg/SPSA-1mh/SPSA-1mi/SPSA-1mj/SPSA-1mk/SPSA-1ml/SPSA-1mm/SPSA-1mn/SPSA-1mo/SPSA-1mp/SPSA-1mq/SPSA-1mr/SPSA-1ms/SPSA-1mt/SPSA-1mu/SPSA-1mv/SPSA-1mw/SPSA-1mx/SPSA-1my/SPSA-1mz/SPSA-1na/SPSA-1nb/SPSA-1nc/SPSA-1nd/SPSA-1ne/SPSA-1nf/SPSA-1ng/SPSA-1nh/SPSA-1ni/SPSA-1nj/SPSA-1nk/SPSA-1nl/SPSA-1nm/SPSA-1nn/SPSA-1no/SPSA-1np/SPSA-1nq/SPSA-1nr/SPSA-1ns/SPSA-1nt/SPSA-1nu/SPSA-1nv/SPSA-1nw/SPSA-1nx/SPSA-1ny/SPSA-1nz/SPSA-1oa/SPSA-1ob/SPSA-1oc/SPSA-1od/SPSA-1oe/SPSA-1of/SPSA-1og/SPSA-1oh/SPSA-1oi/SPSA-1oj/SPSA-1ok/SPSA-1ol/SPSA-1om/SPSA-1on/SPSA-1oo/SPSA-1op/SPSA-1oq/SPSA-1or/SPSA-1os/SPSA-1ot/SPSA-1ou/SPSA-1ov/SPSA-1ow/SPSA-1ox/SPSA-1oy/SPSA-1oz/SPSA-1pa/SPSA-1pb/SPSA-1pc/SPSA-1pd/SPSA-1pe/SPSA-1pf/SPSA-1pg/SPSA-1ph/SPSA-1pi/SPSA-1pj/SPSA-1pk/SPSA-1pl/SPSA-1pm/SPSA-1pn/SPSA-1po/SPSA-1pp/SPSA-1pq/SPSA-1pr/SPSA-1ps/SPSA-1pt/SPSA-1pu/SPSA-1pv/SPSA-1pw/SPSA-1px/SPSA-1py/SPSA-1pz/SPSA-1qa/SPSA-1qb/SPSA-1qc/SPSA-1qd/SPSA-1qe/SPSA-1qf/SPSA-1qg/SPSA-1qh/SPSA-1qi/SPSA-1qj/SPSA-1qk/SPSA-1ql/SPSA-1qm/SPSA-1qn/SPSA-1qo/SPSA-1qp/SPSA-1qq/SPSA-1qr/SPSA-1qs/SPSA-1qt/SPSA-1qu/SPSA-1qv/SPSA-1qw/SPSA-1qx/SPSA-1qy/SPSA-1qz/SPSA-1ra/SPSA-1rb/SPSA-1rc/SPSA-1rd/SPSA-1re/SPSA-1rf/SPSA-1rg/SPSA-1rh/SPSA-1ri/SPSA-1rj/SPSA-1rk/SPSA-1rl/SPSA-1rm/SPSA-1rn/SPSA-1ro/SPSA-1rp/SPSA-1rq/SPSA-1rr/SPSA-1rs/SPSA-1rt/SPSA-1ru/SPSA-1rv/SPSA-1rw/SPSA-1rx/SPSA-1ry/SPSA-1rz/SPSA-1sa/SPSA-1sb/SPSA-1sc/SPSA-1sd/SPSA-1se/SPSA-1sf/SPSA-1sg/SPSA-1sh/SPSA-1si/SPSA-1sj/SPSA-1sk/SPSA-1sl/SPSA-1sm/SPSA-1sn/SPSA-1so/SPSA-1sp/SPSA-1sq/SPSA-1sr/SPSA-1ss/SPSA-1st/SPSA-1su/SPSA-1sv/SPSA-1sw/SPSA-1sx/SPSA-1sy/SPSA-1sz/SPSA-1ta/SPSA-1tb/SPSA-1tc/SPSA-1td/SPSA-1te/SPSA-1tf/SPSA-1tg/SPSA-1th/SPSA-1ti/SPSA-1tj/SPSA-1tk/SPSA-1tl/SPSA-1tm/SPSA-1tn/SPSA-1to/SPSA-1tp/SPSA-1tq/SPSA-1tr/SPSA-1ts/SPSA-1tt/SPSA-1tu/SPSA-1tv/SPSA-1tw/SPSA-1tx/SPSA-1ty/SPSA-1tz/SPSA-1ua/SPSA-1ub/SPSA-1uc/SPSA-1ud/SPSA-1ue/SPSA-1uf/SPSA-1ug/SPSA-1uh/SPSA-1ui/SPSA-1uj/SPSA-1uk/SPSA-1ul/SPSA-1um/SPSA-1un/SPSA-1uo/SPSA-1up/SPSA-1uq/SPSA-1ur/SPSA-1us/SPSA-1ut/SPSA-1uu/SPSA-1uv/SPSA-1uw/SPSA-1ux/SPSA-1uy/SPSA-1uz/SPSA-1va/SPSA-1vb/SPSA-1vc/SPSA-1vd/SPSA-1ve/SPSA-1vf/SPSA-1vg/SPSA-1vh/SPSA-1vi/SPSA-1vj/SPSA-1vk/SPSA-1vl/SPSA-1vm/SPSA-1vn/SPSA-1vo/SPSA-1vp/SPSA-1vq/SPSA-1vr/SPSA-1vs/SPSA-1vt/SPSA-1vu/SPSA-1vv/SPSA-1vw/SPSA-1vx/SPSA-1vy/SPSA-1vz/SPSA-1wa/SPSA-1wb/SPSA-1wc/SPSA-1wd/SPSA-1we/SPSA-1wf/SPSA-1wg/SPSA-1wh/SPSA-1wi/SPSA-1wj/SPSA-1wk/SPSA-1wl/SPSA-1wm/SPSA-1wn/SPSA-1wo/SPSA-1wp/SPSA-1wq/SPSA-1wr/SPSA-1ws/SPSA-1wt/SPSA-1wu/SPSA-1wv/SPSA-1ww/SPSA-1wx/SPSA-1wy/SPSA-1wz/SPSA-1xa/SPSA-1xb/SPSA-1xc/SPSA-1xd/SPSA-1xe/SPSA-1xf/SPSA-1xg/SPSA-1xh/SPSA-1xi/SPSA-1xj/SPSA-1xk/SPSA-1xl/SPSA-1xm/SPSA-1xn/SPSA-1xo/SPSA-1xp/SPSA-1xq/SPSA-1xr/SPSA-1xs/SPSA-1xt/SPSA-1xu/SPSA-1xv/SPSA-1xw/SPSA-1xx/SPSA-1xy/SPSA-1xz/SPSA-1ya/SPSA-1yb/SPSA-1yc/SPSA-1yd/SPSA-1ye/SPSA-1yf/SPSA-1yg/SPSA-1yh/SPSA-1yi/SPSA-1yj/SPSA-1yk/SPSA-1yl/SPSA-1ym/SPSA-1yn/SPSA-1yo/SPSA-1yp/SPSA-1yq/SPSA-1yr/SPSA-1ys/SPSA-1yt/SPSA-1yu/SPSA-1yv/SPSA-1yw/SPSA-1yx/SPSA-1yy/SPSA-1yz/SPSA-1za/SPSA-1zb/SPSA-1zc/SPSA-1zd/SPSA-1ze/SPSA-1zf/SPSA-1zg/SPSA-1zh/SPSA-1zi/SPSA-1zj/SPSA-1zk/SPSA-1zl/SPSA-1zm/SPSA-1zn/SPSA-1zo/SPSA-1zp/SPSA-1zq/SPSA-1zr/SPSA-1zs/SPSA-1zt/SPSA-1zu/SPSA-1zv/SPSA-1zw/SPSA-1zx/SPSA-1zy/SPSA-1zz

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER <sup>a</sup>	STRUCTURE DESCRIPTION <sup>b</sup> STUDY AREA - SQUARE	YEAR BUILT <sup>c</sup> MAP SECTION	NO. OF LEVELS <sup>d</sup>	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	ESTIMATED TOTAL VOLUME - (yd <sup>3</sup> )	STRUCTURE WALL THICKNESS <sup>e</sup> (ESTIMATED WALL THICKNESS IN INCHES AND VOLUME IN YD <sup>3</sup> )				HISTORICAL USE <sup>f</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>g</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
319	Flammable Material Storage/SPSA-1a	4501	1	110	52	C (11) [14]	PW (12) MH (6) [15]	NP	C (6) [23]	The building stored M108 bomb fuzes, flammable materials, and various hazardous materials. CAIS, crystallized picric acid, two M1A1 chlorine cylinders, and two cans of unidentified chemical agent were reported to be stored in warehouse.	HISTORICAL: Chemical agent <sup>1</sup> , chlorine, flammable material, hazardous material, fuzes, picric acid, CAIS

E: A symbol and acronym list is provided on the last page of this table.

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Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA - Subarea	YEAR BUILT/ MAP SECTION	NO OF LEVELS*	ESTIMATED TOTAL VOLUME* (ft <sup>3</sup> )	EST. MATED TOTAL VOLUME* (ft <sup>3</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN YD <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
3211	Boiler Plant/Central Gas/SPSA-3a	42/02	3	42,000	5,318	C (6) [378]	ST (12) [1,010]	CWD (6) [79]	6 (12) [1,374]	<p>The building contained a natural gas line and used coal. Shell installed fuel oil pumps, oil heaters, and two fuel oil tanks in building. In 1963 a test burning of bicycloheptadiene bottoms mixed with fuel oil was possibly carried to building. In 1974 the building was used to determine the feasibility of substituting coal for No. 6 fuel oil and natural gas for boiler fuel.</p>	<p><b>HISTORICAL:</b> Bicycloheptadiene, coal, fluoranthene, fuel oil, oil, methyl naphthalene, natural gas, No. 6 fuel oil, phenanthrene, pyrene</p> <p><b>SAMPLING:</b> Dust: Arsenic, cadmium, chromium, copper, lead, zinc</p> <p><u>Surface Soil (0 - 2 in):</u> NSC</p> <p><u>Surface Soil (0 - 2 ft):</u> Aldrin, arsenic, atrazine, cadmium, chlordane, chlorophenylmethyl sulfide, chlorophenylmethyl sulfone, chlorophenylmethyl sulfoxide, chromium, copper, DDE, DDT, DBCP, dieldrin, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc</p> <p><u>Subsurface Soil (5 - 20 ft) methyl chloride, m-xylene, xylene</u></p> <p><u>Groundwater:</u> Carbon tetrachloride, chloroform, ethylbenzene, tetrachloroethylene, toluene, trichloroethylene, xylenes, 1,2-dichloroethylenes</p> <p><u>Air:</u> Benzene, carbon tetrachloride, chloroform, toluene, copper, ethylbenzene, methyl chloride, tetrachloroethylene, xylenes</p> <p><u>Dust/Vacuum:</u> Arsenic, cadmium, chromium, copper, lead, zinc, butene, benzene, mercury, triethylol, multiethylbutyl ketone, xylenes</p> <p><u>Dirt/Wipe:</u> Zinc, chromium, copper, lead</p>

NOTE: A symbol and acronym list is provided on the last page of this table.  
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 Rev 07/09/93, 12:30pm

ble 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA - Subarea	YEAR BUILT, MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (ft <sup>3</sup> )	ESTIMATED TOTAL VOLUME - (ft <sup>3</sup> )	STRUCTURE MATRICES - (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN ft <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
321C1	Pumphouse/GPSA-3a	51/02	1B	300	34	A/C (2) (5)	WD (3) (4)	NP	C (8) (25)	Tanks of natural gas and fuel oil were stored in the pumphouse as part of the standby fuel oil system	HISTORICAL Fuel oil, natural gas SAMPLING Surficial Soil (0 - 2 in) NSC Surficial Soil (0 - 2 ft) Alden, arsenic, atrazine, cadmium, chlordane, chlorophenylmethyl sulfide, chlorophenylmethyl sulfone, chlorophenylmethyl sulfoxide, chromium, copper, DDE, DDT, DBCP, dieldrin, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc Subsurface Soil (5 - 20 ft) methylene chloride, m xylene, xylenes

### 3. Inventory List of Rocky Mountain Arsenal Structures.

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NUMBER	STRUCTURE DESCRIPTION/STUDY AREA - SLOAN	YEAR BUILT/ MAP SECTION	NO OF LEVELS*	ESTIMATED TOTAL VOLUME* (cu ft)	EST. MAINT TOTAL VOLUME* (cu ft)	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN cu ft)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
2101	Fuel Oil Pumphouse/SPSA-3a	42/02	1	160	32	WD (2) [4]	WD (1) [4]	NP	C (6) [23]	The building was used as a pumphouse for fuel oil	HISTORICAL: Fluoranthene, fuel oil, methyl naphthalene, phenanthrene, pyrene SAMPLING: Sulfuric Acid (0 - 2 in), NSC Sulfuric Acid (0 - 2 ft), Aldrin, arsenic, cadmium, chlordane, chlorophenylmethyl sulfide, chlorophenylmethyl sulfone, chlorophenylmethyl sulfonate, chromium, copper, DDE, DDT, DBCP, dieldrin, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc Subsurface Soil (5 - 20 ft) methylene chloride, m-xylene, xylenes Groundwater: Benzene, carbon tetrachloride, chloroform, ethylbenzene, trichloroethylene, toluene, trichloromethylene, xylenes, 1,2-dichloroethylenes HISTORICAL: None
322	Coal Sampling/SPSA-3a	41/02	1	170	30	AC [3]	AR [4]	NP	C (6) [21]	No prior chemical use reported	HISTORICAL: None
322A	Traitor Storage Shed/SPSA-3a	42/02	1	190	34	AC [4]	PW [4]	NP	C (3) [24]	No prior chemical use reported	HISTORICAL: None
323	Ash (Coal) Storage Silo/Hopper/SPSA-3a	42/02	2	1,200	340	C [48]	ST [110]	NP	C (18) [179]	No prior chemical use reported	HISTORICAL: None
324	Coal Hopper/SPSA-3a	43/02	0	6	6	NP	WD (2) [4]	NP	NP	No prior chemical use reported	HISTORICAL: None

A symbol and acronym list is provided on the last page of this table.  
\*Data effective 10/24/94 to 10/24/94, 12/5/94

to 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA NUMBER)	YEAR GULF MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	FINI MATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN YD <sup>3</sup> )				METEORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	WALLS EXTERIOR	WALLS INTERIOR	FOUNDATION		
325	Electrical Power Plant/ SPSA-3a	42/02	3B	16,000	2,900	C (6) [1/4]	ST (8) [7/8]	CC (24) [40/1] BIT (8) [1/5]	C (12) [1 1/2]	No prior chemical use reported	HISTORICAL None
326	Power Plant Pump house/SPSA-12a	42/02	1	2,700	6/0	WD [4]	ST (8) [2/2]	CC (12)	C (18) [6-8]	The building was constructed to provide a source of cooling water to the South Plants area	HISTORICAL None  SAMPLING Liquid: Calcium, magnesium, potassium, sodium, 1 - ... rolum, nontarget compounds  Dust: Chlorophenylmethyl sulfone, dieldrin, Cd, Cr, Cu, Pb, Zn, As  Structural Matrices*:  ICLP: Ba, Cr, chloroform, atrazine, DCEP, CPMSO, DCEP, Hg, methylene chloride, methyl ethyl ketone, benzene, methylisobutyl ketone, CPMSO  Total Waste Methods: Cr, dieldrin, Hg, methylene chloride  HISTORICAL None
327	Calender/SPSA-4b	HA/02	0	15	29	NP	NP	NP	C (3) [1/9]	No prior chemical use reported	HISTORICAL None

\* A symbol and acronym list is provided on the first page of this list.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA NUMBER	YEAR BUILT - REAR SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (cu ft)	ESTIMATED TOTAL SURF AREA - (sq ft)	STAND FIVE MATERIALS* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN cu ft)				POTENTIAL ASSOCIATED CHEMICALS
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION	
328	Goop Mixing and Filling Building/SPSA 4b	45/02	2	7,000	2,200	C (6) [233]	BH (8) PW (12) [194]	BH (8) [286]	C (12) [1,354]	HISTORICAL Chemical agents* magnesium dust, goop, Pb and/or, cyanide, white phosphorus, napalm, sarin, benzene, oil asphalt, malathion, magnesium metal, sodium nitrate, gasoline, phenol, petroleum of extract, isobutyl methacrylate polymer
328A	Change House/SPSA 4b	53/02	1	49	15	WD [1]	MH (6) [11]	NP	C (6) [1]	HISTORICAL N/A
329	Gasoline Pump Building/SPSA 4b	45/02	1	160	44	A/C [1]	MH (8) [20]	NP	C (6) [21]	HISTORICAL Gasoline, benzene, magnesium nitrate, goop, thickening agents

\* A typed and Xeroxed list is provided in the last page of this table.  
APPROXIMATELY FOLLOWING  
07/00/00, 12/01/00

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA NUMBER	YEAR BUILT MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL VOLUME (yd <sup>3</sup> )	EST. WATER CAP. (yd <sup>3</sup> )	STRUCTURE MATERIALS ESTIMATED MAXIMUM THICKNESS (INCHES) and VOLUME (yd <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ANALYZED CHEMICALS*
						ROOF	RETENTION WALLS	INTERIOR WALLS	FOUNDATION		
3311	Phosphate Filling Warehouse/SPSA 4b	4202	1	7,300	960	WD (2) [166]	WO-S (4) [46]	WO (1) [2]	C (6) [709]	This warehouse was used to steam-clean and refurbish Shrike and Sparrow missile containers and to fill bombs with phosphene, during which time leakage of phosphene was reported frequently. This warehouse was also used for the processing of M70 Mustard (HD) filled bombs. The leaked waste from the filling process consisted mainly of spent sodium hydroxide (caustic), naphtha, paint thinner, and some oils. The solid waste consisted of spent coke and caustic sludge. Naphtha was used to wash the outside of bomb casings, which were then painted and sterilized. In 1952, heresite coating of M70 HD-filled bombs was also conducted. The warehouse was also used for PX storage and U.S. Geological Survey (USGS) core samples. Later the building was used as a general purpose warehouse with prime storage in building situated in Tank 24.	<b>HISTORICAL</b> Core sample, heresite coating, hydroxide sludge, HD breakdown products (chloric acid, dioxane, 1,4-naphthoquinone), naphtha, oil, paint, paint thinner, phosphene, spent sodium hydroxide, sodium spent coke, other historically associated chemicals not available  <b>SAMPLING</b> Soil (0 - 2 in.) NSC  Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chlordane, chlorophenylmethane sulfone, chlorophenylmethane sulfonate, chromium, copper, DDE, DDT, DBCP, dieldrin, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc  Subsurface Soil (0 - 2 ft) tetrachloroethylene, (2 - 5 ft) methylone chloride (5 - 20 ft) 1,2-dichloroethane, methylone chloride, trichloroethylene, (-, 20 ft) carbon tetrachloride, tetrachloroethylene, 1,1,1-trichloroethane  Groundwater: Benzene, carbon tetrachloride, chloroform, m-xylene, tetrachloroethylene, toluene, trichloroethylene, xylene, 1,2-dichloroethanes  Air: Chromium, zinc, mercury, arsenic, copper, benzene, carbon tetrachloride, ethylbenzene, tetrachloroethylene, toluene, xylene, chloroform  Dust/Vapor: Arsenic, cadmium, chromium, copper, lead, zinc, mercury

NOTE: Aerial and ground truth provided in the study area map.  
 \*Chemicals analyzed in this study.  
 Date: 11/19/93, 12/1/93

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION 14-07 AREA - Bldg 40	YEAR BUILT RECYCLED	NO OF LEVELS	ESTIMATED TOTAL AREA SQUARE FEET	EST. BUILT TOTAL AREA SQUARE FEET	ESTIMATE THE MATERIALS AND VOLUMES IN FT <sup>3</sup>				HISTORICAL USE*	POTENTIAL CONTAMINANTS CHECK ALL
						ROOF	FOUNDATION	WALLS	INTERIOR		
3329	Warehouse SPSA 40	4202	1	7,700	901	WD (2) [174]	(18) [174]	WM (4) [14]	WD (2) [14]	The warehouse was part of the phosphene filling plant and was used to store and conduct final use age testing on phosphene filled bombs. Strike and 15mm mortar containers were stored and tested. This warehouse was also used for storage of polyblended biphenyls (100 lb) in 55 gallon drums. Edgemont Army Medical Center and others used the building for storage with precise content information in Task 24. The USGS used the building for toxic sample storage.	HISTORICAL: Core samples, PCB oil, phosphene, etc. Historically associated chemicals not available  SAMPLING: Surficial Soil (0 - 2 m): NSC  Surficial Soil (0 - 2 ft): Aldrin, arsenic, atrazine, chlordane, chlorophenylmethyl sulfone, chlorophenylmethyl sulfoxide, chromium, copper, DDE, DDT, DBCP, dieldrin, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, isodrin, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc  Subsurface Soil (0 - 2 ft) tetrachloroethylene, (2 - 5 ft) methylone chloride (5 - 20 ft) methylone chloride, 1,1,2 trichloroethane, 1,1,2,2-tetrachloroethane, 1,1,1,2-tetrachloroethane, 1,1,1,2-tetrachloroethane  Groundwater: Benzene, carbon tetrachloride, chloroform, tetrachloroethylene, trichloroethylene

NOTE: A separate inventory of structures in the 14-07 area is available.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (SICUT AREA NUMBER)	YEAR BUILT (BY YEAR)	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME (cu ft)	ESTIMATED TOTAL AREA (sq ft)	STRUCTURE MATERIALS* (ESTIMATED MATERIAL TYPE, RANGE IN cu ft, AND VOLUME IN cu ft)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	WALLS EXTERIOR	WALLS INTERIOR	FOUNDATION		
3331	Waterhouse, JPSA-45	42/02	1	7,100	942	AS (2) [166]	WU (CM 14) [24]	CM (10-364) [1]	C (H) [709]	The waterhouse was identified as the Bomb Assembly Blank Facility which was used to assemble M69 white phosphorus bombs. The building served as a processing and storage building for isobutylmethacrylate and a thickening agent for the gasoline used in M74 white phosphorus incendiary bombs. Items of interest include arsenic, DBCP, lead, vapors, and other pesticides were also stored in the waterhouse. Fitzsimons Medical Center used building for storage of medical supplies with precise contents unavailable in Task 24.	<b>HISTORICAL</b> Aldrin, azodrin, belin, DBCP, gasoline, isobutylmethacrylate, pesticides, thickening agent, vapors, white phosphorus, other historically associated chemicals not available  <b>SAMPLING</b> [Just] Aldrin, cadmium, chlorophenyl methyl sulfone, chromium, dieldrin, endrin, isodrin, lead, zinc  <u>Surficial Soil (0 - 2 ft)</u> MSC  <u>Surficial Soil (0 - 2 ft)</u> Aldrin, arsenic, chlordane, chlorophenyl/methyl sulfone, chlorophenylmethyl sulfone, DDE, DDT, DBCP, dieldrin, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc  <u>Subsurface Soil (0 - 2 ft)</u> tetrachloroethylene (2-5 ft) methylene chloride (5 - 29 ft) methylene chloride, 1,1,2 trichloroethane, trichloroethylene (5-20 ft) 1,1,1-trichloroethane  (Groundwater) Benzene, carbon tetrachloride, chromium, dichloromethylene, tetrachloroethylene

NOTE: Structures and materials listed in this table are not subject to the same level of investigation as the structures listed in Table 1. Structures listed in this table are not subject to the same level of investigation as the structures listed in Table 1.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA NUMBER	YEAR BUILT / MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME (cu ft)	EST. MAINT. TOTAL AREA (sq ft)	STRUCTURE MATERIALS - ESTIMATED MAINTENANCE REQUIREMENTS AND VOLUMES (cu ft)				HISTORICAL / SAMPLING	POTENTIAL ASSOCIATED CHEMICALS
						ROOF	EXTERIOR WALLS	INTERIOR	FOUNDATION		
3341	Warehouse/SPSA 4b	42-02	1	7,100	942	AC (2) [106]	WD/CM (4) [24]	CM (0.064) [1]	C (8) [709]	The warehouse was identified as the Bomb Assembly Branch facility which was used to rework M74 white phosphorous bombs, pre-1950 criticals in warehouse unavailable in Task 24	<u>HISTORICAL</u> Chemicals: No historically associated chemicals  <u>SAMPLING</u> Soil: Aldrin, chlordane, DDE, dieldrin, endrin, isodrin  Surface Soils (0 - 2 ft): Aldrin, arsenic, atrazine, cadmium, chlordane, chlorophenylmethyl sulfone, chlorophenylmethyl sulfide, chromium, copper, DDE, DDT, DBCP, dieldrin, endrin, isodrin, lead, mercury, zinc  Groundwater: Carbon tetrachloride, chloroform, ethylbenzene, hexachloroethane  <u>HISTORICAL</u> Aldrin, chlorinated hydrocarbons, DBCP, DDEP, 12-TEC, dieldrin, endrin, pesticides, unknown medical supplies, vapors, white phosphorous  <u>SAMPLING</u> Dust: Aldrin, arsenic, cadmium, chromium, dieldrin, hexachlorocyclopentadiene, isodrin, lead, zinc  Surface Soils (0 - 2 ft): Aldrin, arsenic, atrazine, cadmium, chlordane, chlorophenylmethyl sulfide, chlorophenylmethyl sulfone, chlorophenylmethyl sulfide, chromium, copper, DDE, DDT, DBCP, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc  Groundwater: Carbon tetrachloride, chloroform, ethylbenzene, hexachloroethane
3351	Warehouse/SPSA 4b	42-02	1	7,100	942	AC (2) [106]	WD/CM (4) [24]	CM (0.064) [1]	C (8) [709]	The warehouse was identified as the Bomb Assembly Branch warehouse used to rework white phosphorous bombs, and for the storage and processing of M74 white phosphorous incendiary bombs. Drums of pesticides were stored in the warehouse. The building was also used to package chlorinated hydrocarbons including aldrin, dieldrin, DDEP, and endrin. A spill of DDEP 12-TEC occurred. Ambient air quality samples for DDEP had concentrations up to 17.6 parts per billion in 1977. Subsequent improvements to the ventilation system reduced DDEP levels to 0.1 parts per billion. The building was also used for storage of unknown medical supplies by the Eggenmont Medical Center.	<u>HISTORICAL</u> Aldrin, chlorinated hydrocarbons, DBCP, DDEP, 12-TEC, dieldrin, endrin, pesticides, unknown medical supplies, vapors, white phosphorous  <u>SAMPLING</u> Dust: Aldrin, arsenic, cadmium, chromium, dieldrin, hexachlorocyclopentadiene, isodrin, lead, zinc  Surface Soils (0 - 2 ft): Aldrin, arsenic, atrazine, cadmium, chlordane, chlorophenylmethyl sulfide, chlorophenylmethyl sulfone, chlorophenylmethyl sulfide, chromium, copper, DDE, DDT, DBCP, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc  Groundwater: Carbon tetrachloride, chloroform, ethylbenzene, hexachloroethane

NOTE: A separate map showing the location of the structures is available in the study area map.

CRITICALS: CRITICALS ARE NOT LISTED IN THIS TABLE.

MAP: CRITICALS: 12-55-00



Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA NUMBER)	YEAR BUILT (MAP SECTION)	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	STRUCTURE MATERIALS - (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN YD <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
341A1	Condensate Pump House-SPSA-4b	44/02	1	42	42	CM [0]	C [9]	CM [2]	C [3]	No prior chemical use reported	HISTORICAL: No historically associated chemicals  SAMPLING: Surficial Soil (0 - 2 in): NSC  Surficial Soil (0 - 2 ft): Aldrin, chlordane, chlorophenylmethyl sulfone, chromium, copper, C <sup>14</sup> , DDT, DBCP, DCPD, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc  Groundwater: Benzene, carbon tetrachloride, chloroform, chlorobenzene, tetrachloroethylene, trichloroethylene
341B	Sewage Lift Station - Covered Pits-SPSA-4b	44/02	1	42	6	NP	C (6) [1]	NP	C (6) [1]	No prior chemical use reported	HISTORICAL: None
342	Warehouse-M74 Incendary Bomb Storage-SPSA-4b	42/02	1	7,900	1,000	AC (1) [17%]	CA (0.6) [4%]	WD [n%]	C (6) [74%]	The building was used to rework M69 incendiary bombs (M13 cluster) and for storage of M74 bomb casings, tail cups, tail plugs, adapters, white phosphorus cups, and off-specification incendiary cases. On November 11, 1944, an M69 bomb exploded causing several minor injuries. A trichloroethylene degreaser and recovery still used to degrease empty M74 casings was installed in 1952. The still recovered trichloroethylene from the oil solvent discharge of the degreaser and piped the solvent back to the degreaser for reuse. An estimated six gallons of trichloroethylene were lost during each 8 hour shift. Nonionic, nonhazardous dry materials were stored in the building.	HISTORICAL: White phosphorus cups, off-specification incendiary cases, trichloroethylene degreaser, oil solvent, tail cups, adapters, tail plugs

FE: A number and description list is provided in the end page of this table.  
SAMPLING: Data is listed in the end page of this table.  
- 01/09/13 12:50pm

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA - Subarea	YEAR BUILT/ MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (ft <sup>3</sup> )	ESTIMATED TOTAL AREA - (ft <sup>2</sup> )	STRUCTURE MATRICES - ESTIMATED MAXIMUM THICKNESS (IN INCHES) AND (VOLUME IN ft <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
343	Manufacturing/ Picketfencing Warehouse/SPSA-4b	42/02	1	8,600	1,000	A/C (1) [183]	CA (0.6) [40]	MB (8) [67]	C (6) [753]	The building was used for final assembling, picketfencing, inspecting, painting, and installing fuzes and tail cups on the M74 and E48 bombs. Also used to paint and pack out 105mm white phosphorus shells. Specific use or occurrence of magnesium dust paste, oil-asphalt mixtures, and petroleum oil are not described in Task 24, but were probably used in the M74 and E48 bomb operations.	HISTORICAL: Fuzes, magnesium dust paste, oil-asphalt mixtures, petroleum oil extract, white phosphorus, paint, tailcups
343A	Flammable Materials Storage/SPSA-4b	45/02	1	87	29	C (6) [4]	MB (8) [14]	NP	C (8) [9]	A paint storage annex and flammable materials storeroom.	HISTORICAL: Paint, flammable materials
344	Manufacturing Assembly/ Warehouse/SPSA-4b	42/02	1	9,000	1,100	A/C (1) [213]	CA (0.6) [100]	NP	C (6) [814]	The building acted as part of the M74 White Phosphorus Bomb Plant which conducted the final clustering operations and drop testing. Paint booths were installed in the building. From at least 1971 to 1987, the building was used to store nonhazardous, nontoxic, nonmilitary materials.	HISTORICAL: White phosphorus, paint
345	Manufacturing Assembly/ Warehouse/SPSA-4b	42/02	1	7,900	1,000	A/C (1) [176]	CA (0.6) [94]	NP	C (6) [749]	The building was used for the final assembly of tail fins and release wires, packing, labeling, and palletizing M74 white phosphorus incendiary bombs, and painting and storing M31 cluster casings. Nonhazardous, nontoxic, nonmilitary materials were stored in the building.	HISTORICAL: White phosphorus, paint

NOTE: A symbol and acronym list is provided on the last page of this table.

OSAN/ROCKMOUNT/ARSL/DRK  
Rev. 01/05/93, 12/5/96

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA - Subarea	YEAR BUILT MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (cu ft)	ESTIMATED TOTAL SURF. AREA - (sq ft)	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESSES IN INCHES) AND (VOLUME IN cu ft)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERNAL WALLS	INTERNAL WALLS	FOUNDATION		
346f	Warehouse/SPSA-4b	4202	1	7,100	942	A/C (2) [166]	WD/CM (4) [24]	CM (0.064) [1]	C (8) [709]	The warehouse was used as part of M74 while phosphorous incendiary bomb plant, with precise contents stored unavailable in Task 24. It was also used to store bomb clusters, munition components and containers, unspecified salt drums, with precise contents unavailable in Task 24.  SAMPLE ING: Surficial Soil (0 - 2 m): Aldrin, dieldrin  Surficial Soil (0 - 2 ft): Aldrin, arsenic, atrazine, cadmium, chlordane, chlorophenylmethyl sulfone, chromium, copper, DDE, DDT, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc  Subsurface Soil: (2 - 5 ft) methylene chloride, methyl isobutyl ketone, (5 - 20 ft) tetrachloroethylene  Groundwater: Chloroform	

3. A symbol and acronym but is pronounced on the last day of this table.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NAME - 4	STRUCTURE USE (i.e., Plant?) STUDY AREA NUMBER	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME <sup>a</sup> (ft <sup>3</sup> )	ESTIMATED TOTAL AIR VOLUME <sup>a</sup> (ft <sup>3</sup> )	STRUCTURE MATRICES <sup>a</sup> (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE <sup>a</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>b</sup>
						ROOF	WALLS EXTERIOR	WALLS INTERIOR	FOUNDATION		
3471	Warehouse/Chemical Storage/SPSA-4b	5302	1	21,000	1,829	CA (0.25) [370]	MBS (2) [244]	P/D (5) [97]	C (8) [993]	The east side of the warehouse was used for storage of methyl parathion. In the west side, aldrin, azodrin, dieldrin, endrin, budrin, nuidrin, and DBCP were stored. (Hydrophosphates (insecticides) and oil drums were also stored in the warehouse. Approximately 60 gallons of DBCP were spilled on the south loading docks in 1973. In 1982, the walls, ceilings, and floors were washed, water samples were then analyzed for pesticides, all of which were below the detection limit.	<b>HISTORICAL:</b> Aldrin, azodrin, budrin, DBCP, dieldrin, endrin, fluoranthene, methyl naphthalenes, methyl parathion, nuidrin, oil, organophosphates, phenanthrene, pyrene <b>SAMPLING:</b> Dust: Aldrin, aldrazine, cadmium, chlorophenylmethyl sulfone, chlorophenylmethyl sulfoxide, chromium, copper, dieldrin, lead, mercury, zinc Soil (0 - 2 ft): Aldrin, arsenic, atrazine, cadmium, chloridane, chlorophenylmethyl sulfide, chlorophenylmethyl sulfoxide, chlorophenylmethyl sulfone, copper, DDE, DDT, DBCP, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc Subsurface Soil: (2 - 5 ft) methyl isobutyl ketone, (5 - 20 ft) methylene chloride, tetrachloroethylene Groundwater: Carbon tetrachloride, chloroform, ethylbenzene, tetrachloroethylene <b>HISTORICAL:</b> None
351	Change House/SPSA-4b	4202	1	5,800	920	A/C (1) [75]	AB (0.07) [10]	FB (0.06) [91]	C (6) [744]	The building stored nontoxic, nonhazardous, military dry materials and equipment.	<b>HISTORICAL:</b> None

NOTE: A symbol and acronym list is provided on the last page of this table.  
ISSUED BY: ROCKY MOUNTAIN ARS  
on 01/04/93, 12:51pm

### 3. Inventory List of Rocky Mountain Arsenal Structures.

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NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA - NUMBER	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL VOLUME (cu ft)	EST. MADE TOTAL VOL. (cu ft)	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN yd <sup>3</sup> )				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
352	Open Storage/SPSA-4b	42/02	0	250	250	NP	NP	NP	C (4) [254]	The building was used to repair and recondition Chemical Warfare Service equipment; disassemble power driven decontaminating apparatus and smoke generators, and remove rust from tanks and white phosphorus igniter tubes. Building burned down and foundation was used for open storage of barrels, tanks, drums, containers, and equipment used in pesticide production by Nostrip Chemical Works. Chemicals used by Nostrip include tallow fatty acids, amide amine, tall oil, amino amine soap, tosin acids, hydrochloric acid, ethylene amines, alkylamine amines, heterocyclic amines, Amine AL-7, aminoethylpiperazine process residue, dodecyl alcohol bottoms, APB, cleaning agent, white phosphorus, unspecified substance	HISTORICAL: Tallow fatty acids, amide amine, tall oil, amino amine soap, tosin acids, hydrochloric acid, ethylene amines, heterocyclic and aliphatic amines, alkylamine amines, Amine AL-7, aminoethylpiperazine process residue, dodecyl alcohol bottoms, APB, cleaning agent, white phosphorus, unspecified substance
352A	Quonset Storage/SPSA-4b	47/02	1	280	19	CM (0.06) CM (0.16)	PW CM (0.16)	NP	C (4) [19]	The building was initially used for oil and grease, and possible acid storage. Later, leased to Nostrip Chemical Works and used as a storage house and office. Nostrip's production process required a long chain fatty acid, such as tall oil, with a short chain amine such as dodecylamine which produced an amide amine soap and waste water. A green liquid was observed coming from a tank east of the building, and discharge of material described as containing various amines, including aminoethylpiperazine, and Bromine 20 was also reported.	HISTORICAL: Amines, aminoethylpiperazine, bromine 20, a long chain fatty acid, tall oil, short chain amine, dodecylamine, amide amine soap, waste water, oil, grease, acid, unspecified green liquid
353	Open Storage/SPSA-4b	42/02	0	760	760	NP	NP	NP	C (4) [761]	The building provided open storage of containers of process chemicals such as sulfonic acid	HISTORICAL: Sulfonic acid

\* A symbol and acronym key is provided on the first page of this table.

UNCLASSIFIED//FOR OFFICIAL USE ONLY  
17/06/03, 11:51pm

SINK NUMBER	STRUCTURE DESCRIPTION / STUDY AREA - Subarea	YEAR BUILT / MAP SECTION	NO. OF LEVELS*	ESTIMATED TOTAL VOLUME* (yd <sup>3</sup> )	EST. MATED TOTAL VOLUME* (yd <sup>3</sup> )	STRUCTURE MATRIXES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN YD <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
354	Warehouse/SPSA-4b	4202	1	7,500	960	A/C (1) [175] CM (0.06) [41]	P/D [32]	C (6) [716]	The building was used to reize approximately 8,000, 4.2 inch high explosive shells. Later used as a general purpose warehouse which may have stored racine rings for the GB area; other specific contents are not described in Task 24.	HISTORICAL: Explosive material, racine rings, fuzes, other historically associated chemicals not available	
355	Warehouse/SPSA-4b	4202	1	7,900	1,000	A/C (1) [175] CM (0.06) [295]	WD [83]	C (6) [473]	The building was initially used for storage with precise contents unavailable in Task 24. In 1984, stored 134 drums of silicon transformer liquid, 23 drums of chrome oxide or alumina catalyst, six drums of unidentified soil or mineral samples, and one drum of water.	HISTORICAL: Silicon transformer liquid, chrome oxide or alumina catalyst, other historically associated chemicals not available	
356	Warehouse/SPSA-4b	4202	1	7,500	1,000	A/C (1) [175] CM (0.06) [295]	WD [83]	C (6) [473]	The building was used to repair and recondition Chemical Warfare Service equipment. Shell leased the building to store pesticides that were drummed in Building 42; (aldin, pylin, and DBCP). Baking 451 (aldin, EC, azodin, bidin, codlin, dthum, DBCP, phosdin, phosdin-E, and vapona), and planavin, nudin, empty drums, and other packing material. Also stored medical supplies, but precise information unavailable in Task 24.	HISTORICAL: Aldin, pydin, azodin, nudin, medical supplies, DBCP, aldin, EC, bidin, codlin, dthum, phosdin, vapona, phosidine E, planavin, herbicides (bladox, atrazine), other associated chemicals not available SAMPLING: Dust - A, tin, dieldrin, Cu, Pb, Zn	
3611	Primary Electrical Substation/ SPSA	4202	1	3,600	54	C (11) [113]	NA	C (8) [14]	Possible high levels of PCBs in transformers were at one time suspected in the substation	HISTORICAL: PCB SAMPLING: Surficial Soil (0 - 2 m) Aldrin, DDE, DDT, dieldrin	

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA - Subarea	YEAR BUILT / MAP SECTION	NO. OF LEVELS*	ESTIMATED TOTAL AIR VOLUME - (cu ft)	EST. MAILED TOTAL AREA - (sq ft)	STRUCTURE MATRICES* (ESTIMATED MAXIMUM DIMENSIONS IN INCHES)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
362	Warehouse/SPSA-7c	53/02	1	44,000	3,941	CAWD (21') [502]	MF (3) [512]	C:CM (6) [255]	C (8) [1,708]	The warehouse was used as a support warehouse for the manufacturing of incendiary bombs, and the storage of M78 and M79 white phosphorus bombs. Production and testing of XM40 sandwich bullet bombs (consisting of potassium chlorate, red phosphorus, silica gel, magnesium oxide, and silica) was conducted. The exact portion was used for the storage of Titan missiles, with precise contents unavailable in Task 24.	<b>HISTORICAL:</b> Magnesium oxide, potassium chlorate, red phosphorus, silica, silica gel, white phosphorus, other historically associated chemicals not available <b>SAMPLING:</b> Surficial Soil (0 - 2 in): Aldrin, dieldrin, endrin Surficial Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chlordane, chlorophenylmethyl sulfone, chromium, copper, DDE, DDT, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc Subsurface Soil (2 - 5 ft) methylene chloride, (5 - 20 ft) methylene chloride, tetrachloroethylene Groundwater: Benzene, carbon tetrachloride, chloroform, chlorobenzene, tetrachloroethylene, 1,1-dichloroethane <b>HISTORICAL:</b> Lubricants, sanitary sewage
364	Sewage Lift Station - southeast of 35a/SPSA-4b	52/02	0	25	20	C (6)	C (15)	NP	C (6)	A lift station for the sanitary sewer system. No chemicals are suspected to have been used except those associated with routine pump maintenance such as lubricants.	<b>HISTORICAL:</b> Lubricants, sanitary sewage
365	Explosive Blending Building/SPSA-7c	67/02	1	1,600	480	CM (0.5) [264]	PW (H) CM (5) [62]	C (12) [59]	C (8) [50]	The building was utilized as a preparation building for the incendiary chemical components (red phosphorus, magnesium oxide, and potassium chlorate) of the pyrotechnic mixture used in sandwich bullet bombs. Also used as part of the M4 bullet filling program.	<b>HISTORICAL:</b> Red phosphorus, magnesium oxide, potassium chlorate <b>SAMPLING:</b> Liquid: Chlorophenylmethyl sulfone, calcium magnesium, potassium, sodium, Zn non-target compounds

A symbol and acronym list is provided on the last page of this table.  
\*URD - UNRELIABLE DATA  
\*NDA - NOT DATA

### 3. Inventory List of Rocky Mountain Arsenal Structures.

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STRUCTURE NUMBER	STRUCTURE DESCRIPTION/STUDY AREA - Subarea	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (yd <sup>3</sup> )	EST. MATED TOTAL VOLUME (yd <sup>3</sup> )	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME (yd <sup>3</sup> )				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
368	Swimming Pool and Filter House/Recreational Facility/ SSA	55/02	1	540	610	A/C	MC	NA	C	Chlorine was used for the chlorination process and soda ash was used in the pool	HISTORICAL: Chlorine, soda ash SAMPLING: Surficial Soil (0 - 2 in): Aldrin, DDE, DDT, dieldrin, endrin, isodrin Surficial Soil (0 - 2 ft): Aldrin, chlordane, copper, DDE, DDT, DBCP, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc
369†	Lower Derby Valve Gate and Concrete Vault/SSA-1c	48/01	0B	45	20	NP	C (8) [17]	NP	NP	As part of the water system, sulfate alumina was added to maintain an acceptable clarification level	HISTORICAL: Sulfate alumina SAMPLING: Surficial Soil (0 - 2 in): Aldrin, DDT, dieldrin, endrin Surficial Soil (0 - 2 ft): Aldrin, chromium, copper, DDE, DDT, DBCP, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury
370	Remediation Use Structure	NOTE	Built since 1986, additional information available from PMRMA								
371†	Water Pumping Station/ SSA-1a	42/02	1B	1,800	816	A/C (2) [19]	ST (6) [48]	BR (6) [11]	C (8) [67]	The station was used for pumping both process and potable water in which chlorine was added to both water systems. Sulfate alumina was also added to the potable water system. Organochlorine pesticides are known to have been present in process water derived from the lakes system. A leak occurred in a process water line in 1957.	HISTORICAL: Aldrin, chlordane, chlorine, DDE, DDT, dieldrin, endrin, isodrin, sulfate alumina SAMPLING: Surficial Soil (0 - 2 in): Aldrin, DDE, DDT, dieldrin, endrin, isodrin Surficial Soil (0 - 2 ft): Aldrin, copper, DBCP, DDE, DDT, dieldrin, endrin, isodrin, lead, mercury, zinc

2. A symbol and acronym key is provided on the last page of this table.  
AC (AIR CONDITIONING) UNIT  
3/19/93, 12/94/95

### 3. Inventory List of Rocky Mountain Arsenal Structures.

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ID	STRUCTURE DESCRIPTION STUDY AREA: Subarea	YEAR BUILT MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME (ft <sup>3</sup> )	EST. MAILED TOTAL AREA (ft <sup>2</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THE EXISTING DIMENSIONS AND VOLUME IN FT)				HISTORICAL USE*	POTENTIAL ASSOCIATED METALS*
						ROOF	ELE- VATION	WALLS	FOUNDATION		
72	Million Gallon Reservoir (Pond) Water Supply/SSA	42/02	1	12,000	530	WD (180)	WD (24)	NA	C (12) (2/96)	Chlorine was used to the potable water system. The reservoir acted as a back up supply for the process and potable water system.	HISTORICAL: Chlorine  SAMPLING Surface Soil (0 - 2 ft): Alder, DDE, DDT, dieldrin, endrin, isodrin  Surface Soil (0 - 2 ft): Aldrin, chlordane, copper, DDE, DDT, DBCP, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc  HISTORICAL: Chlorine (hypochlorite solution)  SAMPLING Surface Soil (0 - 2 ft): Aldrin, DDE, DDT, dieldrin, endrin, isodrin  Surface Soil (0 - 2 ft): Aldrin, chlordane, copper, DDE, DDT, DBCP, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc  HISTORICAL: No historically associated chemicals  SAMPLING Surface Soil (0 - 2 ft): Aldrin, DDE, DDT, dieldrin, endrin, isodrin  Surface Soil (0 - 2 ft): Aldrin, chlordane, copper, DDE, DDT, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc
73	Chlorinating Station/SSA	56/02	1	140	56	CM	MB	NA	C (30)	Chlorine (hypochlorite solution) was in the potable water chlorination station.	HISTORICAL: Chlorine (hypochlorite solution)  SAMPLING Surface Soil (0 - 2 ft): Aldrin, DDE, DDT, dieldrin, endrin, isodrin  Surface Soil (0 - 2 ft): Aldrin, chlordane, copper, DDE, DDT, DBCP, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc  HISTORICAL: No historically associated chemicals  SAMPLING Surface Soil (0 - 2 ft): Aldrin, DDE, DDT, dieldrin, endrin, isodrin  Surface Soil (0 - 2 ft): Aldrin, chlordane, copper, DDE, DDT, dieldrin, endrin, hexachlorocyclopentadiene, isodrin, lead, mercury, zinc

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (Include Area, Name)	YEAR BUILT (If Unknown, Indicate)	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME <sup>a</sup> (cu ft)	EST. MAINT. TOTAL <sup>b</sup> (hr)	STRUCTURE MATRICES <sup>c</sup> (ESTIMATE MATERIALS IN THE MATRICES) (AC, EXTERIOR, INTERIOR, FOUNDATION)				HISTORICAL USE <sup>d</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>e</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
373B	Garage to 373 SSA	NA 02	1	290	42	AC [6]	ST (H) [7]	NP	C (4) [16]	No prior chemical use reported	HISTORICAL: None SAMPLING: Structure Matrices <sup>f</sup> TCLP: Ba, Zn, Hg
374	Water Treatment Plant - west of Lower Derby Lake SSA	42 62	1	110	116	NP	NP	NP	C (6) [10]	A water treatment plant for adding aluminum sulfate to lake water; however, treatment operation was never successful and aluminum sulfate was removed	HISTORICAL: Aluminum sulfate
3781	Chemical Storage post south of WSA	42 02	1	61	16	AC (2)	WD	NA	C [9]	At this station, chlorine (hypochlorite solution) was injected into the main water pipelines to maintain proper clarification levels	HISTORICAL: Chlorine (hypochlorite solution) SAMPLING: Surface Soil (0 - 2 m) NSC
3791	Chemical Station - Number 2 WSA	42 03	1	73	17	AC [12]	WD [3]	NP	C [97]	Chlorine and ammonia were used for potable water treatment at this station	HISTORICAL: Ammonia, chlorine SAMPLING: Surface Soil (0 - 2 m) DDT, dieldrin, endrin Surface Soil (0 - 2 ft) Aldrin, DDT, DBCP, dieldrin, endrin Subsurface Soil (2 - 5 ft, 5 - 20 ft, > 20 ft) methylene chloride
382	Chemical Station WSA	42 03	0	14	7	C [2]	C (8) [5]	NP	NP	A chlorinating station which used chlorine and ammonia for potable water treatment	HISTORICAL: Chlorine, ammonia
383	Community Club - Upper Center WSA	74 02	1	2,100	310	AC, S [94]	SM (H) [19] (H) [41]	SM (H) [11] (H) [30]	C (4) [12]	No prior chemical use reported	HISTORICAL: No historically associated chemicals Surface Soil (0 - 2 ft) Aldrin, chlordane, copper, DDT, dieldrin, endrin, heptachlor epoxide, isodrin, lead, methoxy, etc.

<sup>a</sup>NOTE: A volume and maintenance estimate is provided for each structure. The volume estimate is based on the structure's footprint and height. The maintenance estimate is based on the structure's footprint and height.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTIONS STUDY AREA & Scheme	YEAR SURF. MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (cu ft)	EST. MAILED TOTAL AIR VOL. - (cu ft)	STRUCTURE MATERIALS - (ESTIMATED MASSING THE THICKNESS OF EACH) AND VOLUME (cu ft)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTENSION WALLS	INTERIOR WALLS	FOUNDATION		
305f	Water Pump Station - Well Number 1 WSA	5404	1	37	14	AC (10) [10]	C [8.5]		C [3.5]	Used as a pump and control house for process water system Well 1	HISTORICAL contaminated  SAMPLING Surficial Soil (0 - 2 m): DDT, chlordane, isodrin  Surficial Soil (0 - 2 ft): DDT, chlordane, heptachlorocyclopentadiene, isodrin, lead, zinc
306f	Water Pump Station - Well Number 2 WSA	5404	1	37	14	AC (2) [1]	C (H) [9]	NP	C (H) [4]	Used as a pump and control house for process water system Well 2	HISTORICAL contaminated  SAMPLING Surficial Soil (0 - 2 m): DDT, dieldrin, isodrin  Surficial Soil (0 - 2 ft): DDT, dieldrin, heptachlorocyclopentadiene, isodrin, lead, zinc
307f	Water Pump Station - Well Number 3 WSA	5604	1	37	14	AC (2) [1]	C (H) [1]	NP	C (H) [4]	Used as a pump and control house for process water system Well 3	HISTORICAL contaminated  SAMPLING Surficial Soil (0 - 2 m): Dieldrin  Surficial Soil (0 - 2 ft): Dieldrin, heptachlorocyclopentadiene
321	Sewage Disposal and Treatment Plant WSA 40	4224	1	470	61	CM (10.05) [0.1]	2W (H) CM (10.05) [0.1]	NP	C (H) [6.1]	Sanitary sewage treatment plant where plant effluent was chlorinated prior to discharge into First Creek during 1943. The plant was discharging DBCP into First Creek in 1977. In 1979, a steel mounted carbon filtration unit was installed to remove contaminants	HISTORICAL sewage  HISTORICAL DDCP, chlordane, carbon, sanitary

NOTE: All ground and structure are in process of being  
decommissioned and will be removed by 1995.  
Data obtained from 1974 and  
1975 (1974) 12/1/74

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRAK LINE NUMBER	STRUCTURE DESCRIPTION STUDY AREA - Building	YEAR BUILT MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (cu ft)	FLOOR TOTAL AREA - (sq ft)	STRAK LINE MATERIALS - ESTIMATED VOLUMES (cu ft)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	RETENTION WALLS	RETENTION WALLS	FOUNDATION		
3921	Sewage Lift Station - Number 2 NCSA (Sanitary Sewer System)	42/34	00	130	46	C (18) [6]	HR (12) [27]	NP	C (12) [10]	The station received sewage from the temporary administration area.	HISTORICAL: Sewage SAMPLING: Surface Soil (0 - 2 in): NSC Surface Soil (0 - 2 ft): Copper, lead, mercury, zinc
3931	Sewage Lift Station - Number 3 WSA 7b	42/34	00	130	46	C (18) [6]	HR (12) [27]	NP	C (12) [10]	The station received sewage from Hose Hall and the warehouse area.	HISTORICAL: Sewage SAMPLING: Surface Soil (0 - 2 in): Dieldrin Surface Soil (0 - 2 ft): Copper, dieldrin, mercury, zinc
394	West Gate Sewage Treatment Plant WSA	42/33	0	3	3	C (6) [1]	NA	NP	C (6) [1]	Septic tank for west gate area.	HISTORICAL: Sanitary sewage
395	Toxic Yard Sewage Plant - Number of 90/RESA	42/06	0	16	7	WD [1]	HR (9) [5]	NP	C (4) [1]	Septic tank and drain field associated with the toxic yard treatment plant.	HISTORICAL: Sanitary sewage
409	Condensate Pumping Station SPSA 1a	45/01	1	40	3	CM (102) [1]	CM (102) [1]	NP	C (6) [1]	No prior chemical use reported.	HISTORICAL: None
411	Sulfur Dioxide and Sulfur Monochloride Manufacturing Storage SPSA 1a	42/01	1	11,000	1,500	A/C [60]	PW (18) AB [105]	CC (24)	C (19) [1,266]	The building was used as a sulfur monochloride and sulfur dichloride manufacturing and sulfur storage facility. Produced HD. As incinerator and methyl chloride used sulfur, chlorine gas, and sulfur chemicals in operations. Mesa Chemical Company produced isocyanate (a benzene derivative), sulfonated detergents, resins, and plastics. The isocyanate waste steam contacting of a sodium sulfate, sodium sulfate solution, and smaller quantities of quinones, hydroquinones, and phenols and polymer materials were stored in 5,000 gallon drums.	HISTORICAL: Sulfur monochloride, sulfur dichloride, sulfur, chlorine, HD breakdown products (isocyanate and ethane 1,4-dichloro-2-methyl-2-butene), As incinerator, resins, sulfonated detergents, sodium hydroxyquinones, phenols and polymer resins, sodium sulfate, sodium sulfate solution, sodium hydroxide

NOTE: A summary of the data for the structures listed in this table is provided in the summary table on the next page.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE	STRUCTURE DESCRIPTION (STUDY AREA NUMBER)	YEAR BUILT (MAP NUMBER)	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME (m <sup>3</sup> )	ESTI- MATED TOTAL VOLUME (m <sup>3</sup> )	STRUCTURE MATERIALS ESTIMATED MAXIMUM THICKNESS (INCHES) AND VOLUME (m <sup>3</sup> )				HISTORICAL USE	POTENTIAL ASSOCIATED CHEMICALS
						FOOT	CEMENT BLOCK	WALLS	INTERIOR	FOUNDATION	
411A	Steam Meter House-SPSA 1a	47/01	1	24	5	WD (4) [1]	WD (4) [4]	NP	NP	NP	A steam flow measuring facility with several Hg leaks due to steam pressure surges on measuring instrumentation  HISTORICAL: Hg SAMPLING: Dust, Cd, Cr, Cu, Pb, Zn HISTORICAL: Hg SAMPLING: As, Hg
411B	Steam Meter House-SPSA 1a	47/01	1	19	4	WD (4) [1]	WD (4) [4]	NP	NP	NP	A steam flow measuring facility with several Hg leaks due to steam pressure surges on measuring instrumentation  HISTORICAL: Hg SAMPLING: Dust, Dieldrin, Cd, Cr, Cu, Pb, Zn, As, Hg
412	Mustard Filling Manufacturing/Storage SPSA 1a	42/01	1B	9,000	1,600	A/C [76]	PW (12) AB (10/05) [63]	NP	NP	C (6) [149/]	HISTORICAL: HD breakdown products (chloroacetic acid, phenol, 1,4 oxadiazole, thioglycol, chlorine, ethylene, sulfur, sulfur monochloride, chlorinated carbon tetrachloride, sodium hydroxide, bleach, fuel oil, dichloro, hydrochloric acid, chlorine, hydrogen chloride, sodium bicarbonate, chlorinated lime, sodium hydrosulfide, soda, carbon tetrachloride, chlorinated water  SAMPLING:  Liquid: Dicyclopentadiene, chloroform, methylene chloride, chlorophenylmethyl sulfone

NOTE: A detailed map of the Rocky Mountain Arsenal is provided in the Appendix. The map shows the location of the structures and the areas of the study.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER <sup>1</sup>	STRUCTURE DESCRIPTION <sup>2</sup> STUDY AREA, Subarea	YEAR BUILT <sup>3</sup> MAP SECTION <sup>4</sup>	NO. OF LEVELS <sup>5</sup>	ESTIMATED TOTAL AIR VOLUME <sup>6</sup> (ft <sup>3</sup> )	EST. WATER TOTAL VOLUME <sup>7</sup> (ft <sup>3</sup> )	STRUCTURE MATRICES <sup>8</sup> (ESTIMATED MAXIMUM THICKNESSES IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE <sup>9</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>10</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
413	White Phosphorus/ Sulfur Monochloride Storage/SPSA-1a	4201	1	1,200	660	S [14]	C (8)	NP	C [646]	The building was used to store white phosphorus in the storage tank bottom covered by a blanket of "phosphy water" (water that was in contact with elemental phosphorus). Colorado Fuel and Iron leased the building and requested permission to install a sulfuric supply line (further details are not found in Task 24). In 1950, a heavy, dry residue composed of organic materials had built up on the internal pipe. Shell rectified the problem. In 1951, white phosphorus cup filling operations were resumed. Approximately 16,000 gallons of an aldim and benzene solution were spilled west of the building although historical data do not indicate the proximity of the spill to the building. Shell excavated the solidified aldim. Although mentioned, specific use or occurrence of sodium monochloride is not described in Task 24.	HISTORICAL: White phosphorus, sulfuric acid, sodium monochloride, phosphy water, heavy dry residue composed of organic materials, phosphorus
414	Dichloro-Mustard Scrubber Unit/SPSA-1a	4201	0	79	79	NP	NP	NP	C (9) [79]	HD vent gas scrubber units that neutralized all vent gas wastes resulting from normal HD operations and noncondensable vent gases from decontamination activities in Building 416. The following chemicals <sup>11</sup> occurred in Building 416: HD, sodium hydroxide, chlorine, ethylene, sulfur, sulfur monochloride, chlorinated carbon tetrachloride, bleach, fuel oil, and hydrochloric acid. Process vent gases passed through coke-packed scrubber. Later, the building was used in production of dichloro, in which vent gases consisted primarily of hydrochloric acid and solvents. Following production, equipment was decontaminated with water and sodium bicarbonate. Although mentioned, chemical use of methylene chloride was not described in Task 24.	HISTORICAL: HD, coke, sodium hydroxide, chlorine, ethylene, sulfur, sulfur monochloride, chlorinated carbon tetrachloride, bleach, fuel oil, hydrochloric acid, methylene chloride, dichloro, dichloro ethylene, HD vent gas wastes, dichloro vent gases

<sup>1E</sup> A number and acronym list is provided on the last page of this table.

<sup>2</sup> Same description as Table 1.

<sup>3</sup> Unknown, if given.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA / SUBAREA	YEAR BUILT / MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME <sup>a</sup> (yd <sup>3</sup> )	EST. MAINT. TOTAL AREA (ft <sup>2</sup> )	STRUCTURE MATRICES <sup>a</sup> ESTIMATED MAXIMUM THICKNESS IN INCHES AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE <sup>a</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>a</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
415	Cautic Make-up Tank/ SPSA-1a	42/01	0	79	79	NP	NP	NP	C (9)	The building was used as a caustic make-up tank which made and supplied caustic for the HD manufacturing plant (maintained a minimum of 1,500 gallon caustic reserve in tank).	HISTORICAL: Sodium hydroxide
416	Mustard/Dichloride Disposal Reactor/SPSA-1a	42/01	0	79	79	NP	NP	NP	C (9)	HD decontamination reactor for the HD disposal facility was used to neutralize waste resulting from HD manufacturing operations, including off-specification HD lots, runaway HD production reactions, and decontamination washes from Building 412. Equipment considered contaminated by production residues composed of HD, sulfur monochloride, sulfur, and chlorine were neutralized by using chlorinated carbon tetrachloride washes, chlorine caustic soda mixtures, bleach, and water. Sludges containing free standing HD was neutralized by a carbon tetrachloride fuel oil saturated with chlorine, and caustic. Although Building 416 is pictured as a part of the dichloro production unit, detailed information regarding reactor's activities is not described in Task 24. It is also uncertain if the building was used for production of Super Tropical Bleach.	HISTORICAL: HD, sodium hydroxide, sulfur monochloride, chlorine, dichloro, bleach, chlorinated carbon tetrachloride, fuel oil, sulfur, chlorine, sodium hydroxide soda, HD operation waste, HD breakdown products (Hexachloroethane, 1,4-dichloro, hexachloro, carbon tetrachloride)

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA NUMBER)	YEAR BUILT (MAP SECTION)	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (yd <sup>3</sup> )	ESTIMATED TOTAL VOLUME * (yd <sup>3</sup> )	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN YD <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
417	Mustard/Dichloride Dacon PUSPSA 1a	42/01	0	79	79	NP	NP	NP	C (9)	HD decontamination pit was used to neutralize waste from HD manufacturing operations with a caustic solution. Effluent neutralized in pit included: spent caustic from scrubber reservoir, resultant effluent from neutralized off-specification HD batches and runaway production reactions production residues consisting of caustic and bleach residues, HD, fuel oil, ethylene, sulfur monochloride, chlorine, sulfur, chlorinated carbon tetrachloride, and caustic chlorine treatment reactor resultant vent gases, and disposal wastes. The specific chemical composition of resulting effluents that entered and exited the decontamination pit is unavailable in Task 24. Several sources assert that HD contaminant effluents also entered the pit. Pit identified as part of the dichloro unit, but specific information regarding operations was not reported in Task 24. Following operations, production equipment was decontaminated with water and sodium bicarbonate flushes.	HISTORICAL: HD breakdown products (chloroacetic acid, dichloro, 1,4 dioxane, hydroxyacetaldehyde), sodium hydroxide, ethylene, dichloro, bleach, sulfur monochloride, chlorine, sulfur, sodium bicarbonate, chlorinated carbon tetrachloride, fuel oil, HD operation wastes, caustic, vent gases, caustic chlorine

NOTE: A symbol and acronym list is provided on the last page of this table.  
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BUILDING NUMBER	STRUCTURE DESCRIPTION STUDY AREA - Subarea	YEAR BUILT, MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME (cu ft)	ESTIMATED TOTAL VOLUME (cu ft)	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
422	Mustard Manufacturing/ Aldrin Production/SPSA-1a	42/01	1B	17,000	1,600	AC (1) [54]	PW (12) C (36) [43]	NP	C (6) [1,513]	HD manufacturing facility which housed equipment for HD manufacture, storage, and filling. Ethylene and sulfur monochloride were used to produce HD. Internal maintenance consisted of decontamination of residues of HD, sulfur monochloride, chlorine, and sulfur by a wash of chlorinated carbon tetrachloride and caustic chlorine treatment. In 1950, manufacture of aldrin and undiluted raw malathion, pyridin, and DBCP-EC occurred. In the building, a spill of approximately 1,500 gallons of aldrin-benzene occurred which caused an explosion. Shell indicated that a basement sump collected the resulting aldrin, benzene, bicycloheptadiene, and hexachlorocyclopentadiene mixture, and pumped it to the waste ditch. A leak in the spent acid line spilled 100 gallons west of building.	<u>HISTORICAL</u> HD breakdown products (chloroacetic acid, aldrin, 1,4-dichlorobenzene, pyridine, sulfur, chlorine, ethylene, sulfur monochloride, aldrin, chlorinated carbon tetrachloride, pyridin, DBCP-EC, benzene, bicycloheptadiene, acid, hexachlorocyclopentadiene, caustic chlorine, raw materials  <u>SAMPLING</u> Liquid - DDE, aldrin, dieldrin, hexachlorocyclopentadiene, isodrin, nonlabeled compounds  <u>Dust</u> - Aldrin, dieldrin, Cd, Cr, Cu, Pb, Zn, As
424A	Aldrin Control House/ SPSA-1a	53/01	0	10	10	NA	11A	NA	NA	The building housed a control room, laboratory, and part of aldrin manufacturing facility. Several leaks of approximately 200 gallons of bicycloheptadiene occurred east of building. Process water line leaked near building. Manhole west of building was filled with liquid aldrin which had partially solidified.	<u>HISTORICAL</u> Aldrin, bicycloheptadiene
424C	Aldrin Filter Building/SPSA-1a	NA/01	0	14	14	NA	NA	NA	NA	The building was used to filter aldrin mixed with benzene or toluene to remove solids. Waste water produced in the form of filter cake. The building was the source of aldrin contamination in a ditch at southwest corner of building. Unknown quantity of aldrin filter cake spilled.	<u>HISTORICAL</u> Aldrin, benzene, toluene

NOTE: A symbol and acronym list is provided on the last page of this table.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION <sup>1</sup> STUDY AREA Subarea	YEAR BUILT/ MAP SECTION <sup>2</sup>	NO. OF LEVELS <sup>3</sup>	ESTIMATED TOTAL VOLUME <sup>4</sup> (yd <sup>3</sup> )	ESTIMATED TOTAL VOLUME <sup>5</sup> (yd <sup>3</sup> )	STRUCTURE MATRICES <sup>6</sup> (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN yd <sup>3</sup>				HISTORICAL USE <sup>7</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>8</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
426	Aldrin/Mustard Disposal Reactor/SPA-1a	42/01	0	59	59	NP	NP	NP	C	HD decontamination reactor for the disposal facility servicing the HD manufacturing plant which neutralized off-specification HD, runaway HD production reactions and decontamination washes from Building 422. Chemicals <sup>9</sup> associated with these include HD, ethylene, sulfur monochloride, chlorine, sulfur, chlorinated carbon tetrachloride, aldrin, DHP-EC, aldrin-benzene, toluene, DCPD, bicycloheptadiene, pyridin, and hexachlorocyclopentadiene. Used caustic solution and recycled condensable gases and vented noncondensable gases in scrubbers. The building also used in the manufacturing of aldrin. A diaphram blew out on a tank adjacent to the building causing a noxious chemical spread in the South Plants area.	HISTORICAL <sup>2</sup> : HD breakdown products (chloroacetic acid, ethane 1,4-dithiane, thiodiglycol), aldrin, sodium hydroxide, bicycloheptadiene, sulfur, chlorine, ethylene, sulfur monochloride, chlorinated carbon tetrachloride, pyridin, DBCP, EC, benzene, pyridin, hexachlorocyclopentadiene, toluene, DCPD
427	Pesticide/Mustard/Decontamination Pu/SPA-1a	42/01	1	24	4	NP	NP	NP	C (6) [4]	Contaminated waste produced in HD disposal reactor and HD manufacturing facility were piped to the pit for decontamination. Chemicals <sup>9</sup> associated with these include HD, ethylene, sulfur monochloride, chlorine, sulfur, chlorinated carbon tetrachloride, aldrin, toluene, DCPD, DBCP-EC, pyridin, benzene, bicycloheptadiene, and hexachlorocyclopentadiene. The pit was neutralized with a solution of caustic and bleach. Task 24 suggests that the building may be contaminated with pesticides.	HISTORICAL <sup>2</sup> : HD breakdown products (chloroacetic acid, ethane 1,4-dithiane, thiodiglycol), aldrin, sodium hydroxide, bicycloheptadiene, sulfur, chlorine, ethylene, sulfur monochloride, chlorinated carbon tetrachloride, pyridin, DBCP, EC, benzene, pyridin, bleach, hexachlorocyclopentadiene, pesticides, HD operation wastes, toluene, DCPD, potential pesticides
428	Inductor/SPA-1a	42/01	1	25	6	AC (1) [0.3]	PW (9) WD [6]	NP	C (9) [5]	No prior chemical use reported	HISTORICAL: None

(E): A symbol and acronym list is provided on the last page of this table.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA, Subarea	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME* (ft <sup>3</sup> )	ESTIMATED TOTAL VOLUME* (ft <sup>3</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN ft <sup>3</sup>				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
429	Mustard/Brine Mixing/ Pesticide Manufacturing/SPSA-1a	42/01	1	250	15	WD [4]	AB (1) [6]	NP	C (6) [5]	Facility used for salt storage, brine mixing, and calcium chloride brine make-up for the crude HD Manufacturing Plant Task 24 esset that possible contamination of HD exists. The building also possibly stored aldrin pesticide.	HISTORICAL: Calcium chloride brine, HD breakdown products (chloroacetic acid, dithane, 1,4-oathane, theophylline), salts, aldrin, aldrin pesticides, brine SAMPLING: Dust - DDE, aldrin
431	Ethylene Dyer/ Compressor/Refrigeration/ SPSA-1a	42/01	1	5,400	660	C (30) [61]	BR (6) [103]	BR (6) [46]	C (6) [429]	Intermediate facility between ethylene and HD manufacturing units which prepared ethylene and stored calcium carbonate brine. Methylene dichloride was substituted for calcium chloride brine and used as a chilling agent for dichloro production. The building was also possibly used for HD refrigeration and drying. Possible contamination of HD, distilled HD, and LW exists.	HISTORICAL: HD breakdown products (chloroacetic acid, dithane, 1,4-oathane, theophylline), LW, calcium chloride brine, ethylene, methylene dichloride, dichloro, calcium carbonate brine SAMPLING: Dust - Dieldrin, Cd, Cr, Cu, Pb, Zn
432	Sand Blasting Pad/Change House/SPSA-1a	42/01	0	180	180	NP	NP	NP	C (6) [176]	The building was used to provide HD plant facility workers with an area to change contaminated clothing.	HISTORICAL: HD breakdown products (chloroacetic acid, dithane, 1,4-oathane, theophylline).
433	Ethylene Generator/ Research and Development Office/SPSA-1a	42/01	1	12,000	2,600	A/C (1) [144]	BR (8) [619]	P/D (0.06) [29]	C (6) [1,801]	The building was used to turn ethylene gas for the HD manufacturing complex utilizing ethyl alcohol and aluminum oxide. Waste products generated include lime acetylene. Spills of 55-gallons of DCPD and 350 gallons D-D soil fungicide (1,2-dichloropropane) occurred near the building. Building later converted to research facility.	HISTORICAL: Ethylene, ethyl alcohol, aluminum oxide, DCPD, D-D soil fungicide, lime acetylene, herbicides (bifox, planavin) SAMPLING: Dust - DDE, aldrin, aldrin, dieldrin, Cd, Cr, Cu, Pb, Zn, As

\*E: A symbol and acronym list is provided on the last page of this table.

Inventory List of Rocky Mountain Arsenal Structures.

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ID	STRUCTURE DESCRIPTION/1 STUDY AREA - Name	YEAR BLDG MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL VOLUME* (ft <sup>3</sup> )	EST. DATED TOTAL VOLUME* (ft <sup>3</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN ft <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
1	Warehouse/Production Filing/SPSA-1a	42/01	1	11,000	860	CM (0.06) [2]	CM (0.06) [17]	NP	C (6) [946]	The building was used to store reserve stocks of napalm, maintain field equipment, and package liquid pesticides (aldrin-EC, azodrin, bdnin, codrin, dithion, DBCP, phosdrin, phosdrin E, and vapona) into drums. Additional materials used in the building include acetone, hexylene glycol, methanol, and xylene. Spills of DBCP and azodrin occurred in and near the building, respectively. Soda ash was spilled on the azodrin spill and the affected material was removed.	HISTORICAL: DBCP, azodrin, napalm, aldrin-EC, bdnin, codrin, dithion, phosdrin, phosdrin E, vapona, acetone, hexylene glycol, methanol, xylene, soda ash  SAMPLING: Dust - Aldrin, atrazine, dieldrin
	Acetylene Generator Building/SPSA-1g, 2a	49/01	2	3,700	220	C [23]	PW (12) BR (6) CM [32]	BR (8) [26]	C (8) [135]	The building was used to produce acetylene from calcium carbide for the aldrin production process.	HISTORICAL: Acetylene, calcium carbide, herbicides (bladder, planavyn)*  SAMPLING: Dust - Atrazine, Cd, Cr, Cu, Pb, Zn, As  HISTORICAL: Lime slurry, acetylene
1	Lime Slurry Pumphouse/SPSA-1g	49/01	1	24	23	CM (0.06)	PW (1) CM (0.06)	NP	C (6) [15]	The building was used to transfer slurry of lime and water resulting from acetylene production into lime storage basins.	
3	Lime Slurry Pumphouse/SPSA-1g	70/01	1	49	32	CM (0.06)	PW (8) CM (0.06)	NP	C (6) [11]	The building housed hydraulic equipment for acetylene production (an intermediate for aldrin production). By-products include lime slurry and water.	HISTORICAL: Lime slurry, acetylene  SAMPLING: Dust - Aldrin, dieldrin, Cd, Cr, Cu, Pb, Zn, As  HISTORICAL: Acetylene
2	Small Building - north of 459/SPSA-1g	NA/01	1	53	6	A/C [1]	AB [2]	NP	C (6) [3]	The building housed new hydraulic acetylene production.	
	Tank Farm Pumphouse/SPSA-2a	42/01	1	150	34	C (5) [1]	BR (8) [2]	NP	C (6) [25]	Pumphouse for storage tank. Fuel oil and ethyl alcohol were unloaded in pumphouse. Also used to pump DBCP and intermediates for aldrin and endrin.	HISTORICAL: Fuel oil, ethyl alcohol, DBCP, intermediates for aldrin and endrin production  SAMPLING: Dust - Dieldrin, Cd, Cr, Cu, Pb, Zn

Unit and acronym list is provided on the last page of this table.

REF: 10-11-1994  
12 Sheet



3. Inventory List of Rocky Mountain Arsenal Structures.

NUMBER	STRUCTURE DESCRIPTION (STUDY AREA - NUMBER)	YEAR BUILT BY SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME* (ft <sup>3</sup> )	ESTI- MATED TOTAL AREA (sq ft)	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN ft <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTENSION WALLS	INTERIOR WALLS	FOUNDATION		
172	Thionyl Chloride Refrigeration/SPSA-1a	42/01	1	690	96	A/C (2) [9]	WD (6) [12]	NP	C (6) [75]	Refrigeration building for thionyl chloride manufacturing complex which used trichlorobenzene as a refrigerant and ammonia compressors.	HISTORICAL: Thionyl chloride, monochlorobenzene, ammonia SAMPLING: Dust - Aldrin, dieldrin
72A	Lunchroom/Maintenance Equipment Storage/SPSA-1a	67/01	1	110	20	CM (4) [4]	CM (4) [9]	NP	C [8]	The building was used for maintenance equipment, storage, and a lunch room.	HISTORICAL: None SAMPLING: Dust - Aldrin
173	Thionyl Chloride/Packaging SPSA-1a	42/01	1	1,400	84	CA [2]	WD [17]	NP	C (6) [65]	Thionyl chloride dump loading facility, also used to store and package DBCP, dibrom, and supona, store chlorine, and package vapors. The building was potentially contaminated with unspecified industrial chemicals	HISTORICAL: Thionyl chloride, DBCP, chlorine, vapors, supona, dibrom, industrial chemicals SAMPLING: Dust - Aldrin, dieldrin, Cd, Cr, Cu, Pb, Zn, As
474	Electrical Control House/SPSA-1a	42/01	1	33	9	AB (0.2)	AB (0.2)	NP	C (6) [8]	The building was used to provide electricity to transformers and switch gear in the thionyl chloride complex.	HISTORICAL: None SAMPLING: Dust - Aldrin, chlorophenylmethyl sulfone, dieldrin
475	Railroad Car Warmer Shed/SPSA-1a	42/01	1	600	170	C (12) [37]	C (13) [94]	NP	C (12) [33]	Part of Thionyl Chloride Plant used to heat carloads of solid material. Also possibly used to store carloads of dichloro and hydrazine. Fifty- five gallons of aradim exploded in warming shed. Soda ash was spread on affected area and area was excavated and removed.	HISTORICAL: Thionyl chloride, hydrazine, aradim, dichloro, soda ash SAMPLING: Dust - Cd, Cr, Cu, Pb, Zn, As

[illegible]

A symposium and exhibition had as its focus the last phase of this battle.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTIONS STUDY AND A SUMMARY	TANK DIA. MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL VOLUME cu ft	PER MAILED TOTAL VOLUME cu ft	STRIKING MATRICES <sup>1</sup> ESTIMATED MAXIMUM THICKNESS OF MATRICES <sup>2</sup> (ADD, MIN, AND MAX)				HISTORICAL USE <sup>3</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>4</sup>
						ROOF	EXTENSION	WALLS	FOUNDATION		
503	East Chemical Wastewater Pump SPSA 1a	75.01	1	160	34	CA (0.7) [1]	CA (0.7) [1]	NP	C (8) [1]	Part of Denver Effluent Treatment Facility used to collect and transfer the chemical waste stream to the pretreatment operation of the Denver Effluent Treatment Facilities. Chemical wastes were neutralized with sodium hydroxide. Chemical wastes could include the same compounds listed for Building 502.	HISTORICAL: Chemical sewer contaminants <sup>1</sup> which could include the same compounds listed for Building 502: herbicides (blatex, planavon) <sup>4</sup> SAMPLING: Dust: Aldrin, atrazine, chlorophenylmethyl sulfone, Cd, Cr, Cu, Pb, Zn, As
504	Denver Effluent Treatment Emergency Diesel Generator SPSA 1a	76.01	1	140	24	CA (0.25) [1]	CA (0.25) [1]	NP	C (3) [2]	Diesel operated electric generator used to provide back up power for Denver Effluent Treatment Facility.	HISTORICAL: Diesel fuel SAMPLING: Dust: Cd, Cr, Cu, Pb, Zn, As HISTORICAL: Not available
504A	Denver Effluent Treatment Maintenance Shop SPSA 1a	76.01	1	240	44	CM (0.06) [1]	CM (0.06) [1]	NP	C (6) [4]	The building was used for storage of small parts, shop area, and maintenance facility. Chemical use in building is unavailable in Task 24.	HISTORICAL: Chemical sewer contaminants <sup>1</sup> which could include the same compounds listed for Building 502: herbicides (blatex, planavon) <sup>4</sup> SAMPLING: Dust: Aldrin, atrazine, chlorophenylmethyl sulfone, Cd, Cr, Cu, Pb, Zn, As
505	Denver Effluent Treatment Pretreatment and Pump House SPSA 1a	76.01	1	260	27	CA (0.2) [1]	CM (0.2) [1]	NP	C (6) [4]	Pretreatment pumps built to treat chemical waste effluent as part of the Denver Effluent Treatment Facility. Chemical wastes were neutralized with sodium hydroxide. Chemical wastes could include the same compounds listed for Building 502.	HISTORICAL: Chemical sewer contaminants <sup>1</sup> which could include the same compounds listed for Building 502: herbicides (blatex, planavon) <sup>4</sup> SAMPLING: Dust: Aldrin, atrazine, chlorophenylmethyl sulfone, Cd, Cr, Cu, Pb, Zn, As
506	Denver Effluent Treatment Control House SPSA 1a	76.01	1	300	57	CM (0.06) [1]	CM (0.06) [1]	PO (5) [6]	C (6) [4]	The building was used to house instrumentation that controlled Denver Effluent Treatment process equipment. A total of 200 hundred gallons of Shell turbine kerosene (2000 gallon refueling heater maintaining eight percent nitrogen) occurred on ground north of the building. The liquid was recovered, with a vacuum and the contained steel tank moved.	HISTORICAL: None

NOTE: 1. Potential sources of contamination are listed in the previous table.  
2. All structures are assumed to be contaminated unless otherwise noted.  
3. All structures are assumed to be contaminated unless otherwise noted.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA NUMBER)	YEAR BUILT (BY STRUCTURE SECTION)	NO. OF LEVELS	ESTIMATED TOTAL VOLUME (cu ft)	EST. BUILT TOTAL VOLUME (cu ft)	STRUCTURE MATERIALS (ESTIMATED MATERIALS IN TENS OF HUNDREDS OF POUNDS)				HISTORICAL USE	POTENTIAL ASSOCIATED CHEMICALS
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
507	Denver Effluent Treatment Separator Pumphouse SPSA 1g	76.01	1	200	31	CA [1]	CA (0.2) [1]	NP	C (6) [11]	The building was part of the chemical waste treatment facility and housed three pumps which alternately transferred heavy organics (mainly chloroform and light organics) to vent gas burner liquid storage tanks. Also used to transfer clarified effluent to final treatment surge tank. Chemical wastes were neutralized with sodium hydroxide. Chemical wastes could include the same chemicals listed in Building 502.	HISTORICAL: Chemical 'sewer contaminants' which could include the same compounds listed for Building 502: herbicides (bladder, planaven) SAMPLING: Dust - Aldrin, atrazine, chlorophenylmethyl sulfone, Cd, Cr, Cu, Pb, Zn, As
508	Denver Effluent Treatment/Copper Sulfate Treatment SPSA 1g	75.01	3	2,200	150	CA (0.1) [2]	PW (12) CA (0.1) [12]	NP	C (6) [13]	The building was part of the chemical waste effluent treatment facility used to precipitate Cu by reaction with hydroxide sulfide. Washing copper sulfide. The Cu free raffinate was then piped to the tanks. The principle waste stream from arsenic production was monomethyl glycylacetaldehyde.	HISTORICAL: Cu sulfate, Cu sulfide, monomethylglycylacetaldehyde, hydrogen sulfide, Cu free raffinate SAMPLING: Dust - Cd, Cr, Cu, Pb, Zn, As
509	Denver Effluent Treatment Methyl Chemical Incubation Concentration/Liquidizer SPSA 1a	75.01	1	240	42	CA (0.1) [1]	CA (0.1) [1]	NP	C [16]	The compound or liquidizer served as a methyl chloride recovery unit for the chemical waste effluent treatment facility. Waste vapor stream was composed of 86 percent methyl chloride, 12 percent nitrogen and small amounts of other impurities. From 22 refrigerant liquid methyl chloride and monochloroethanes were also used.	HISTORICAL: Methyl chloride, chloride, Freon-22, unspecified impurities SAMPLING: Dust - Cd, Cr, Cu, Pb, Zn, As
510	Methyl Isocyanate Refinement SPSA 1a	76.01	1	110	23	CM (0.06) [3]	CM (0.06) [3]	NP	C (12) [20]	The building was used as a methyl isocyanate refrigeration storage unit.	HISTORICAL: Methyl isocyanate

NOTE: A legend and abbreviations provided in the study area map.  
 SOURCE: Denver Arsenal  
 Date: 12/15/81

**Table 3. Inventory List of Rocky Mountain Arsenal Structures.**

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA NUMBER)	YEAR BUILT REAR SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME (cu ft)	EST. MAINT. TOTAL AREA (sq ft)	STRUCTURE MATERIALS (ESTIMATED MATERIAL THICKNESS IN INCHES)				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
511	Chlorinated Paraffin Manufacturing Storage SPSA-1a	4301	3	13,000	2,400	C (6) [172]	PW (48) MB (6)	CC C (6) [232]	C (19) [1996]	The facility was used to manufacture chlorinated paraffin and later used as offices, formulation laboratory, and storage area for chemicals. North of the building were minor spills of kerosene and hexane. The eastern courtyard surface drainage sump was used by Shell to discharge condensate. The following are chemicals that were stored in building: acetic acid, acetone, acetonitrile, acetonitrile UV, alkozone, ammonium hydroxide, butylacrylate, calcium carbide, calcium chloride dihydrate, chloroform, chloromethane, cyclohexanone, dibromomethane, dimethylene chloride, dimethylformamide, dimethylsiloxane, ethyl acetate, ethylene dichloride, ethylene glycol, heptane, hexane, hydrochloric acid, magnesium oxide, methyl alcohol, methyl alcohol-specter, N-amyl alcohol, nitric acid, nitrobenzene, n-octane, normal octane, phosphoric acid, potassium hydroxide, potassium thiocyanate, propanol 2, pyridine, sulfuric acid, sodium chromate, sodium thiosulfate, sulfonic acid, thionyl chloride, triethylamine, 1,1,2 trichloroethane, uranine, isopropyl alcohol.	HISTORICAL: Chlorinated paraffin, kerosene, hexane, acetic acid, acetone, acetonitrile, acetonitrile UV, alkozone, ammonium hydroxide, butylacrylate, calcium carbide, calcium chloride dihydrate, chloroform, chloromethane, cyclohexanone, dibromomethane, dimethylene chloride, dimethylformamide, dimethylsiloxane, ethyl acetate, ethylene dichloride, ethylene glycol, heptane, hexane, hydrochloric acid, magnesium oxide, methyl alcohol, methyl alcohol-specter, N-amyl alcohol, nitric acid, nitrobenzene, n-octane, normal octane, phosphoric acid, potassium hydroxide, potassium thiocyanate, propanol 2, pyridine, sulfuric acid, sodium chromate, sodium thiosulfate, sulfonic acid, thionyl chloride, triethylamine, 1,1,2 trichloroethane, uranine, isopropyl alcohol.
511A	Chlorinated Paraffin Charge House SPSA-1a	4301	1	2,200	160	A.C (11) [14]	FW (12) AB	NP	C [144]	The building was used as part of the chlorinated paraffin manufacturing facility. It was later used by Shell as a storage house.	HISTORICAL: Chlorinated paraffin

[illegible]

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA: Building	YEAR BUILT MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	EST. MAINT. TOTAL VOLUME - (yd <sup>3</sup> )	STRUCTURE MATRICES - (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERNAL WALLS	INTERNAL WALLS	FOUNDATION		
512	Filling/Pesticide Production/SPSA 1a	4301	1	3,700	470	A/C (1) [22]	PW (12) MB (8)	BC (18) BF (8) [2:1]	C (6) [4.30]	The building was part of the LW plant used to fill ion containers and 55 gallon drums with LW and later to fill containers with distilled H <sub>2</sub> O. Staff used the building for manufacturing chlordane, other unsupplied pesticides, and/or intermediates, bicycloheptadiene, and possibly Compound SD-15803. Spills of hexane, heptachlorobicycloheptadiene, heptachlorocyclopentadiene, hexane, isopropyl alcohol, chloroform, Compound SD-15803, Compound 773.	HISTORICAL: LW, HD breakdown products (hexane, acid, esters, 1,4-methoxy, isodiglycol), chlordane, pesticides, and/or intermediates, bicycloheptadiene, heptachlorobicycloheptadiene, heptachlorocyclopentadiene, hexane, isopropyl alcohol, chloroform, Compound SD-15803, Compound 773.
512A	Flammable Solvent Storage Shed/SPSA 1a	5501	1	75	7	CA	NP	NP	C (9) [7]	SAMPLING: Dust - Chlorophenylmethyl sulfone, heptachlor, and chloroform/phenol occurred.	SAMPLING: Dust - Chlorophenylmethyl sulfone, heptachlor, and chloroform/phenol occurred.
										The building stored flammable solvents.	HISTORICAL: Flammable solvents

NOTE: Aerial and ground photos are provided in the site file for this table.  
 SOURCE: Rocky Mountain Arsenal  
 Date: 01/18/93 11:00am

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/STUDY AREA NUMBER	YEAR BUILT/ MAP SECTION	NO OF LEVELS*	ESTIMATED TOTAL AIR VOLUME* (yd <sup>3</sup> )	EST. MATED TOTAL VOLUME* (yd <sup>3</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTENSION WALLS	INTERIOR WALLS	FOUNDATION		
514	Lewis/Dichlorodethyl Sulfide Production/SPSA-1a	42/01	4B	12,000	2,700	CA [672]	BR (18) [16]	CC (18) MB (12) [12/68]	C (9) [1,715]	The building was used for LW and HD manufacturing, and pesticide production including chlordane, endrin, dieldrin, methyl parathion, vapona, cedin, butrin, ethyl parathion, and azodrin. The reactors were charged with mercuric chloride catalyst. As trichloride, acetylene, and thionyl chloride for LW manufacturing. Crude LW was piped to tanks in the basement. The reactors were also used as part of the distilled HD plant with batches of HD piped to storage tanks and the demulsifying agent "Tret-O-Lite" added. Chemicals associated with these operations include hexachlorocyclopentadiene, vinyl chloride, sodium hydroxide, cyclopentadiene, acetic acid, hydrogen peroxide, methylacetoacetate, sulfuric chloride, trimethyl phosphite, p-nitro sodium phenoxide, chloral, sulfuric acid, alpha-methylbenzyl alcohol, skeletalone, sulfuric chloride, dieldrin, dimethylamine, urea, chlorine, D.O., diethylphosphorochlorodithionamide, methylamine, sulfur dioxide, copper sulfate, soluble iron, sulfur compounds, HD, LW, and other toxic impurities. Shell also installed a bicycloheptadiene bottoms flasher unit. A leaking contaminated sewer line was abandoned near the building. A concrete sump which drains the building contained acetic acid, aldim, benzene, caustic soda, dieldrin, endrin, and toluene. Spills of crude azodrin, monomethylchloroacetamide, acetone, chloral, trimethyl phosphite, LW, hexachlorocyclopentadiene, and a solution composed of crude azodrin, butrin, azodrin acetone, chloral, and monomethylchloroacetamide, trimethyl phosphite, and monomethylamine occurred. Specific use or occurrence of heptachlor, strauss	<p><b>HISTORICAL:</b> LW, As trichloride, thionyl chloride, acetylene, mercuric chloride, HD breakdown products (chloroacetic acid, dithane, 1,4-oxathiane, isobutylol), Tret-O-Lite, soluble iron, sulfur compounds, chlordane, heptachlor, strauss hex, aldim, sodium hypochlorite, azodrin, dieldrin, napalm, toluene, DCPD, Hg, As oxide, benzene, acetic acid, sodium hydroxide, cyclopentadiene, endrin, monomethylchloroacetamide, chloral, butrin, dimethylamine, acetone, monomethylamine, p-toluidine, methyl parathion, vapona, cedin, ethyl parathion, hexachlorocyclopentadiene, vinyl chloride, hydrogen peroxide, methylacetoacetate, sulfuric chloride, p-nitro sodium phenoxide, chloral, trimethyl phosphite, sulfuric acid, alpha-methylbenzyl alcohol, skeletalone, dieldrin, sulfuric chloride, chlorine, pesticides, urea, D.O., diethylphosphorochlorodithionamide, methylamine, bicycloheptadiene, sulfur dioxide, copper sulfate, toxic impurities, caustic soda, bleach (calcium hypochlorite)?</p> <p><b>SAMPLING:</b> Liquid - Chlordane, methylene chloride, chlorophenylmethyl sulfone, dieldrin, endrin, remitarjet compounds</p> <p>Dust - Dieldrin, Cd, Cr, Cu, Pb, Zn, As</p>

THE A SYMBOL AND ACRONYM SET IS PROVIDED IN THE 1st EDITION OF THIS TABLE.

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9-0709033 1 Page 1

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA - Building	YEAR BUILT/ MAP SECTION	NO OF LEVELS*	ESTIMATED TOTAL AIR VOLUME* (ft <sup>3</sup> )	EST. HAZAR- DOUS TOTAL AREA* (sq ft)	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
514A	Lewisite M-1 Storage/Dowtham Boiler/SPSA-1a	42/01	1	1,200	110	CA [1]	CA [3]	NP	C (12) [109]	The building initially provided storage for crude LW, mercuric chloride, As trichloride, and acetylene. It later was refurbished as a Dowtham boiler unit for the HD distillation plant. Shall rebuilt the building after an explosion in Building 516 destroyed it and used the Dowtham boilers for aldol production. A tube ruptured causing liquid Dowtham to spray in the building. The building also contained an 8,000 gallon fuel oil tank. Specific use or occurrence of As oxide and napalm are not described in Task 24 although As oxide could be associated with As trichloride manufacturing.	HISTORICAL: LW, mercuric chloride, As oxide, acetylene, Dowtham, napalm, fuel oil, As trichloride  SAMPLING: Dust - Cd, Cr, Cu, Pb, Zn, As
514C	Pumphouse/SPSA-1a	55/01	1	28	1	NP	CM (0.04)	NP	C (4) [1]	The building housed pumps for transferring raw material to Building 514. Precise chemicals in the raw material unavailable in Task 24. Specific use or occurrence of acetic acid and chlorine are not described in Task 24.	HISTORICAL: Acetic acid, chlorine gas, raw material assumed to consist of same chemicals historically associated with Building 514
514D	Refrigeration Compressor/SPSA-1a	NA/01	1	73	4	CM (0.08)	CM (0.04)	CM (0.08)	C (6) [4]	The building housed refrigeration compressors for coolants used within the 514 complex. Specific use or occurrence of white residue are not described in Task 24.	HISTORICAL: White residue  SAMPLING: Dust - Dieldrin
514E	Monomethylamine Dilution Control/SPSA-1a	NA/01	1	33	2	CM (0.06)	CM (0.06)	NP	C (6) [3]	The building was used for monomethylamine dilution (an intermediate used in the azodin process).	HISTORICAL: Monomethylamine  SAMPLING: DUST - Chlorophenylmethyl sulfone, Dieldrin

NOTE: A symbol and description key is provided on the last page of this table.  
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 Rev. 07/03/01 1:06pm

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Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA - Subarea	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (yd <sup>3</sup> )	EST. MATED TOTAL VOL. * (yd <sup>3</sup> )	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN FT <sup>3</sup>				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
516	Lewisite Distillation/ Pesticide Production/ SPSA-1a	42-01	3	9,300	1,300	C (6) [34]	C [437]	CC (24)	C (9) [62]	The building was used to distill crude LW into finished LW. It also manufactured and drummed chlordane, aldrin, isodrin, dieldrin, azodrin, and endrin. Also produced in the building was chlordane (an intermediate of chlordane), the sulfone oxidation phase of planavin production, and the amino isobutyronitrile reaction and flashing phase of biohex. A leak of semi-finished dieldrin consisting of aldrin crystals, benzene, acetic acid, and peroxide occurred. Spills of sulfone acid, hydrogen peroxide, benzene, liquid chlordane, aldrin, chlordane gas, acetic acid, caustic soda, dieldrin, endrin, toluene, and sulfone also occurred. The building is the suspected source of the chloroform detected in ground-water in a nearby well. Vapors scatter bait was leaking. Leaks of dieldrin dust and toluene were also noted. Although mentioned, specific use or occurrence of munatic acid is not described in Task 24.	HISTORICAL: LW, chlordane, chlordane, aldrin, dieldrin, munatic acid, endrin, isodrin, azodrin, amino isobutyronitrile, benzene, peroxide, sulfone acid, hydrogen peroxide, chlordane, toluene, chlorophenylmethyl sulfone, vapors, sodium hydroxide soda, chloroform, acetic acid, biohex, chlorinated paraffin*, hydrogen chloride (hydrochloric acid)*, supona*, planavin* SAMPLING: Dust - Aldrin, dieldrin, chlorophenylmethyl sulfone, Cd, Cr, Cu, Pb, Zn, As
516B	Electrical Equipment Storage/SPSA-1a	NA/01	1	84	16	CA (0.2)	PW (8) CA (0.2)	NP	C [16]	The building was used for storage of miscellaneous electrical equipment.	HISTORICAL: None SAMPLING: Dust - Aldrin, chlordane, chlorophenylmethyl sulfone, aldrin, endrin, hexachlorocyclopentadiene, isodrin, supona, Cd, Cr, Cu, Pb, Zn, As
517	Offices/Change House/Laboratory/SPSA-1a	42-01	2	9,600	1,300	A/C [98]	PW (112) C (10)	MB (8) [178]	C (9) [1,054]	The building was used as a change house and control laboratory for the LW plant, while phosphorus cup filling, chlorinated paraffin plant, and LD distillation plant.	HISTORICAL: LD breakdown products (chloroacetic acid, dichloro, 1,4-naphthoquinol-2-yl), LW, white phosphorus, chlorinated paraffin

NOTE: A symbol and acronym list is provided on the last page of this table.  
ISSUED BY: ROCKY MOUNTAIN ARSENAL  
07/09/2003, 10:00am

ble 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA - Subarea	YEAR BUILT MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME* (ft <sup>3</sup> )	ESTIMATED TOTAL SURF. AREA* (sq ft)	STRUCTURE DIMENSIONS* (ESTIMATED MEASURED IN INCHES)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
518A†	Emergency Fire Protection Pumphouse/SPSA-1a	55/01	1	100	22	CM (0.064) [0]	CM (0.064) [0]	NP	C (12) [11]	The building housed a diesel engine and pump.	<u>HISTORICAL:</u> Diesel fuel  <u>SAMPLING:</u> Surface Soil (0 - 2 in): Aldrin, chlordane, DDE, dieldrin, endrin, mercury, isodrin  Surface Soil (0 - 2 ft): Aldrin, arsenic, atrazine, calcium, chlordane, chloroacetic acid, chlorophenylmethyl sulfide, chlorophenylmethyl sulfone, chlorophenylmethyl sulfoxide, chromium, copper, DDE, DDT, DBCP, DCPD, dieldrin, dithiane, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, soot, thioglycol, zinc  Subsurface Soil: (2 - 5 ft) methylene chloride, tetrachloroethylene, toluene, (5 - 20 ft) benzene, bicycloheptadiene, carbon tetrachloride, chloroform  Groundwater: Benzene, bicycloheptadiene, carbon tetrachloride, chlorobenzene, chloroform, ethylbenzene, m-xylene, methylene chloride, methyl isobutyl ketone, tetrachloroethylene, toluene, trichloroethylene, xylenes, 1,1-dichloroethane, 1,1-dichloroethylene, 1,2-dichloroethanes, 1,1,1-trichloroethane, 1,1,2-trichloroethane
519	Hydrogen Peroxide Storage/SPSA-1a	51/01	1	170	81	CM (0.06) [2]	PW (9) BR (9)	NP	C (9) [8]	The building was originally used as an acetylene gas holder used in conjunction with LW products, but was dismantled and used as a linkage for a chlorinated paraffin plant to dilute and store by 1,1,2,2-tetra peroxide	<u>HISTORICAL:</u> Hydrogen peroxide, acetylene  <u>SAMPLING:</u> Dust - Aldrin, dieldrin, chlorophenylmethyl sulfone, chlorophenylmethyl sulfoxide, Cr, Cu, Pb, Zn, As

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/STUDY AREA - Summary	YEAR BUILT/NO. OF SECTIONS	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (ft <sup>3</sup> )	ESTIMATED TOTAL AREA - (ft <sup>2</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES AND VOLUME IN YD <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
519A	Hydrogen Peroxide Pumphouse/SPSA-1a	51/01	1	180	4	CM (0.06)	BR (8) [1]	NP	C (6) [3]	The building was used to transfer and pump hydrogen peroxide	<u>HISTORICAL:</u> Hydrogen peroxide <u>SAMPLING:</u> Dust - Atom. chlorophenylmethyl sulfone, chlorophenylmethyl sulfoxide, Cd, Cr, Cu, Pb, Zn, As
520	Sample Pump/Probes Storeroom/SPSA-1a	HA/01	1	11	1	CM (0.06)	CM (0.06)	NP	C (6) [4]	No prior chemical use reported.	<u>HISTORICAL:</u> None
521	Acetylene Compressor/Pesticide Manufacturing/SPSA-1a	42/01	3	773	220	M. (8) [7]	PW (11)	CC BR (8) [8]	C (6) [209]	The building was part of a acetylene plant for the LW complex. Sulfuric acid and caustic were used in the building. It was also used for storage and to house testing facilities for the white phosphorus cup filling plant. Later, it was used for fuel oil for DCPD and cyclopentadiene production. Shell installed a Thermal Hex hexachlorocyclopentadiene and hydrochloric acid unit. Hexachlorocyclopentadiene was produced by dechlorinating octachlor (hexachlorocyclopentadiene a). Later the building was used for miscellaneous storage and laboratory facilities. Spills of hexachlorocyclopentadiene, DCPD, and cyclopentadiene, and a leak of octachlor occurred. Although mentioned, specific use or occurrence of chlorobenzene is not described in Task 24.	<u>HISTORICAL:</u> Sulfuric acid, sodium hydroxide, acetylene, white phosphorus, fuel oil, hydrochloric acid, chlorobenzene, DCPD, hexachlorocyclopentadiene <u>SAMPLING:</u> Dust - Dieldrin, hexachlorocyclopentadiene
521A	Refrigeration/Dicyclopentadiene Cracking/SPSA-1a	42-43/01	1	140	16	CA (2)	PW (8) CA (2)	NP	C (6) [16]	The building was part of the DCPD unit which produced cyclopentadiene and also possibly used in the Thermal Hex (hexachlorocyclopentadiene) Unit. Although mentioned, specific use or occurrence of ammonia is not described in Task 24.	<u>HISTORICAL:</u> Ammonia, cyclopentadiene, DCPD, hexachlorocyclopentadiene <u>SAMPLING:</u> Dust - Dieldrin

NOTE: A symbol and acronym list is provided on the last page of this table.  
SSM/IR/CR/SPSA/SPSA-1a/CHX  
Rev 10/1993, 1/2000

3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA - Subarea)	YEAR BUILT - MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME (yd <sup>3</sup> )	EST. BUILT TOTAL AREA (sq ft)	STRUCTURE MATERIALS* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTENSION WALLS	INTERIOR WALLS	FOUNDATION		
521B	Compressor House/ Maintenance/SPSA-1a	51/01	1	340	91	A/C (6) [12]	PW (10) V/O (6)	NP	C (6) [79]	The building was originally built as a compressor building for the Thermal Hex (hexachlorocyclopentadiene) Unit. Later used as a field maintenance shop and shift shack for maintenance employees.	HISTORICAL: Hexachlorocyclopentadiene SAMPLING: Dust - Dieldrin, endrin
521C	Lunchroom/Field Foreman Office/SPSA-1a	60/01	1	210	40	CM (0.06)	PW (12) CM (0.06)	WD (2) [1]	C (6) [39]	The building was used as a lunchroom and field foreman office.	SAMPLING: Dust - Chlorophenylmethyl sulfone, dieldrin
522	White Phosphorus Cup Filling/Acetylene Manufacturing/SPSA-1a	42/01	1	4,600	840	A/C (5)	ST (8)	CC (18)	C (6)	The building acted as an acetylene manufacturing plant which used calcium carbide to produce acetylene gas, by products included quick lime and lime sludge (calcium oxide, calcium hydroxide). Later converted to a filling and assembly building for the white phosphorus cup filling plant which used sodium silicate, alcohol, white phosphorus, and Cu sulfate. The building also stored filling equipment and produced M23 live bomb igniters and M15 grenades. M15 grenades went through tanks containing phosphate and ash. Decontamination and disposal for white phosphorus filling equipment including white phosphorus and phosphy water occurred. White phosphorus contaminated scrap metal was stored in the building.	HISTORICAL: White phosphorus, acetylene, calcium carbide, calcium oxide, calcium hydroxide, sodium silicate, alcohol, Cu sulfate, ash, bomb igniters, phosphate, phosphy water
522B	Change House/ Administration Building/ SPSA-1a	52/01	1	2,200	420	A/C (5) [40]	C (12) [162]	C (8) [5]	C (6) [210]	The building acted as a change house for white phosphorus and HD demilitarization operations.	HISTORICAL: White phosphorus, HD breakdown products (hexanoic acid, ethane, 1,4-dichloro-2-butene, etc.)
523	Arsenic Trichloride Manufacturing Building/ Igniter Tube Filling/SPSA-1a	43/01	1	2,600	220	CM (0.06) [1]	PW (12) CM (0.06)	NP	C (12) [222]	The building was originally an As trichloride manufacturing plant which used As oxide and sulfur monochloride. Later converted for white phosphorus, igniter filling, and producing an insulating plaster base composed of patilla. Other operations included white phosphorus filling, pre-flux, paint booth, phosphite, stripping and water tanks.	HISTORICAL: As oxide, sulfur monochloride, As trichloride, white phosphorus, paint, patilla, phosphite

A symbol and acronym list is provided on the first page of this table.

USCPC/MT/SPSA/1a/1a  
09/91, 10/91

a 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA - Release)	YEAR BUILT/ MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (yd <sup>3</sup> )	ESTIMATED TOTAL AREA * (sq. ft.)	STRUCTURE MATRICES * (ESTIMATED MATRICES IN INCHES)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
523A	White Phosphorus and Arsenic Trichloride Storage Tank House/SPSA-1a	42/01	0	620	140	C (9) [6]	C (9) [41]	NP	C (24) [24]	The building originally stored As trichloride, later converted for use in white phosphorus storage and white phosphorus cup filling and igniter filling operations. White phosphorus tanks were used in the demilitarization of M78 and M79 white phosphorus filled bombs and in dry filling of demilitarized M78 shells with white phosphorus	HISTORICAL: As trichloride, white phosphorus
523C	Arsenic Trichloride Dry Storage Silo/SPSA-1a	42/01	1	230	71	C (9) [6]	C (9) [41]	NP	C (24) [24]	The building stored As trichloride for As trichloride manufacturing operations. Later used by Shell for miscellaneous storage	HISTORICAL: As trichloride
523D	Arsenic Trichloride Dry Storage Silo/SPSA-1a	42/01	1	670	96	C (9) [10]	C (9) [46]	NP	C (24) [40]	The building stored As trichloride for As trichloride manufacturing operations. Later used by Shell for miscellaneous storage	HISTORICAL: As trichloride
523E	Arsenic Trichloride Dry Storage Silo/SPSA-1a	42/01	1	670	96	C (9) [10]	C (9) [46]	NP	C (24) [40]	The building stored As trichloride for As trichloride manufacturing operations. Later used by Shell for miscellaneous storage	HISTORICAL: As trichloride
523F	Arsenic Trichloride Dry Storage Silo/SPSA-1a	42/01	1	670	96	C (9) [10]	C (9) [46]	NP	C (24) [40]	The building stored As trichloride for As trichloride manufacturing operations. Later used by Shell for miscellaneous storage	HISTORICAL: As trichloride
523G	Arsenic Trichloride Dry Storage Silo/SPSA-1a	42/01	1	670	96	C (9) [10]	C (9) [46]	NP	C (24) [40]	The building stored As trichloride for As trichloride manufacturing operations. Later used by Shell for miscellaneous storage	HISTORICAL: As trichloride
524	White Phosphorus Filling and Sulfur Dioxide Disposal/SPSA-1a	43/01	0	27	27	NP	NP	NP	C (6) [27]	The building originally housed sulfur dioxide and sulfur monochloride auxiliary reactor vent gas disposal equipment. Later converted to a heavy equipment shop, also used to fill empty M78 and M79 Lamb casings with white phosphorus. Utilized in the demilitarization of M78 and M79 white phosphorus bombs	HISTORICAL: Sulfur dioxide, sulfur monochloride, white phosphorus

A symbol and acronym list is provided on the last page of this table.  
 523D, 523E, 523F, 523G, 523H, 523I, 523J, 523K, 523L, 523M, 523N, 523O, 523P, 523Q, 523R, 523S, 523T, 523U, 523V, 523W, 523X, 523Y, 523Z, 524A, 524B, 524C, 524D, 524E, 524F, 524G, 524H, 524I, 524J, 524K, 524L, 524M, 524N, 524O, 524P, 524Q, 524R, 524S, 524T, 524U, 524V, 524W, 524X, 524Y, 524Z

3. Inventory List of Rocky Mountain Arsenal Structures.

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STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA, SUMMIT	YEAR BUILT MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL VOLUME <sup>a</sup> (m <sup>3</sup> )	ESTIMATED TOTAL SURFACE AREA <sup>a</sup> (m <sup>2</sup> )	STRUCTURE MATRICES <sup>a</sup> (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN m <sup>3</sup>				HISTORICAL USE <sup>b</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>c</sup>
						ROOF	EXTENSION WALLS	INTERIOR WALLS	FOUNDATION		
525	Product Development Laboratory/Rudin Manufacturing/PSA-1a	42/01	3	5,100	260	CM AC [7]	UR (8) CM (0.06) [121]	NP	C (6) [129]	The building acted as an acetylene scrubber and compressor house used to pump raw acetylene gas through scrubbers containing sulfuric acid and caustic. The building later was converted to a process development laboratory used for development and/or production of phosdim, brom, caustic, supona, hexachlorocyclopentadiene, gardona, aktion, landin, and rewap emulsible concentrates. The building also used in the first two phases in nufim processes involving the chlorinator reactor and crystallization steps. Spills of hexachlorocyclopentadiene, cyclopentadiene, and caustic water containing methanol occurred. Although maintained, specific use or occurrence of bleach is not described in Task 24.	HISTORICAL: Acetylene, sulfuric acid, sodium hydroxide, phosdim, brom, caustic, supona, hexachlorocyclopentadiene, gardona, aktion, landin, rubon and rewap emulsible concentrates, nufim, hexachlorocyclopentadiene, cyclopentadiene, methylisobutyl ketone, mercaptan, bleach (calcium hypochlorite, sodium hypochlorite), herbicides (blatex, planoxim)  SAMPLING: Dust - Altrazene, Cd, Cr, Cu, Pb, Zn
525A	Refrigeration Compressor/Electrical Vault/PSA-1a	65/01	1	13	16	CA (0.7) [7]	CA (0.7) [1]	MB (8)	C (6) [8]	The building was used as a refrigeration building associated with Building 525.	HISTORICAL: Historically associated chemicals not available
526	Pesticide Filter/PSA-1a	51/01	0	26	26	NA	NA	NA	NA	The building filtered solutions of aldrin, benzene, aldrin, and isodichlorobenzene for aldrin, dieldrin, and endrin production. Spills of dieldrin, aldrin, and Task 24 reported that dieldrin in the air exceeded threshold limits.	HISTORICAL: Aldrin, dieldrin, nufim, benzene, kluane, isodrin
527	Change House/Quonset Hut/PSA-1b	50/01	1	370	16	CM (0.06)	FW (24) CM (0.06)	NP	C (4) [16]	The building acted as a lunchroom, supply building, and change room for contaminated clothing for personnel involved with HD demilitarization operations.	HISTORICAL: HD breakdown products (Task 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100)

E: A spread and assembly list is provided on the last page of this table.  
NEJUNING: HAT/PSA-1b/PSA-1c/PSA-1d/PSA-1e/PSA-1f/PSA-1g/PSA-1h/PSA-1i/PSA-1j/PSA-1k/PSA-1l/PSA-1m/PSA-1n/PSA-1o/PSA-1p/PSA-1q/PSA-1r/PSA-1s/PSA-1t/PSA-1u/PSA-1v/PSA-1w/PSA-1x/PSA-1y/PSA-1z/PSA-1aa/PSA-1ab/PSA-1ac/PSA-1ad/PSA-1ae/PSA-1af/PSA-1ag/PSA-1ah/PSA-1ai/PSA-1aj/PSA-1ak/PSA-1al/PSA-1am/PSA-1an/PSA-1ao/PSA-1ap/PSA-1aq/PSA-1ar/PSA-1as/PSA-1at/PSA-1au/PSA-1av/PSA-1aw/PSA-1ax/PSA-1ay/PSA-1az/PSA-1ba/PSA-1bb/PSA-1bc/PSA-1bd/PSA-1be/PSA-1bf/PSA-1bg/PSA-1bh/PSA-1bi/PSA-1bj/PSA-1bk/PSA-1bl/PSA-1bm/PSA-1bn/PSA-1bo/PSA-1bp/PSA-1bq/PSA-1br/PSA-1bs/PSA-1bt/PSA-1bu/PSA-1bv/PSA-1bw/PSA-1bx/PSA-1by/PSA-1bz/PSA-1ca/PSA-1cb/PSA-1cc/PSA-1cd/PSA-1ce/PSA-1cf/PSA-1cg/PSA-1ch/PSA-1ci/PSA-1cj/PSA-1ck/PSA-1cl/PSA-1cm/PSA-1cn/PSA-1co/PSA-1cp/PSA-1cq/PSA-1cr/PSA-1cs/PSA-1ct/PSA-1cu/PSA-1cv/PSA-1cw/PSA-1cx/PSA-1cy/PSA-1cz/PSA-1da/PSA-1db/PSA-1dc/PSA-1dd/PSA-1de/PSA-1df/PSA-1dg/PSA-1dh/PSA-1di/PSA-1dj/PSA-1dk/PSA-1dl/PSA-1dm/PSA-1dn/PSA-1do/PSA-1dp/PSA-1dq/PSA-1dr/PSA-1ds/PSA-1dt/PSA-1du/PSA-1dv/PSA-1dw/PSA-1dx/PSA-1dy/PSA-1dz/PSA-1ea/PSA-1eb/PSA-1ec/PSA-1ed/PSA-1ee/PSA-1ef/PSA-1eg/PSA-1eh/PSA-1ei/PSA-1ej/PSA-1ek/PSA-1el/PSA-1em/PSA-1en/PSA-1eo/PSA-1ep/PSA-1eq/PSA-1er/PSA-1es/PSA-1et/PSA-1eu/PSA-1ev/PSA-1ew/PSA-1ex/PSA-1ey/PSA-1ez/PSA-1fa/PSA-1fb/PSA-1fc/PSA-1fd/PSA-1fe/PSA-1ff/PSA-1fg/PSA-1fh/PSA-1fi/PSA-1fj/PSA-1fk/PSA-1fl/PSA-1fm/PSA-1fn/PSA-1fo/PSA-1fp/PSA-1fq/PSA-1fr/PSA-1fs/PSA-1ft/PSA-1fu/PSA-1fv/PSA-1fw/PSA-1fx/PSA-1fy/PSA-1fz/PSA-1ga/PSA-1gb/PSA-1gc/PSA-1gd/PSA-1ge/PSA-1gf/PSA-1gg/PSA-1gh/PSA-1gi/PSA-1gj/PSA-1gk/PSA-1gl/PSA-1gm/PSA-1gn/PSA-1go/PSA-1gp/PSA-1gq/PSA-1gr/PSA-1gs/PSA-1gt/PSA-1gu/PSA-1gv/PSA-1gw/PSA-1gx/PSA-1gy/PSA-1gz/PSA-1ha/PSA-1hb/PSA-1hc/PSA-1hd/PSA-1he/PSA-1hf/PSA-1hg/PSA-1hi/PSA-1hj/PSA-1hk/PSA-1hl/PSA-1hm/PSA-1hn/PSA-1ho/PSA-1hp/PSA-1hq/PSA-1hr/PSA-1hs/PSA-1ht/PSA-1hu/PSA-1hv/PSA-1hw/PSA-1hx/PSA-1hy/PSA-1hz/PSA-1ia/PSA-1ib/PSA-1ic/PSA-1id/PSA-1ie/PSA-1if/PSA-1ig/PSA-1ih/PSA-1ii/PSA-1ij/PSA-1ik/PSA-1il/PSA-1im/PSA-1in/PSA-1io/PSA-1ip/PSA-1iq/PSA-1ir/PSA-1is/PSA-1it/PSA-1iu/PSA-1iv/PSA-1iw/PSA-1ix/PSA-1iy/PSA-1iz/PSA-1ja/PSA-1jb/PSA-1jc/PSA-1jd/PSA-1je/PSA-1jf/PSA-1jg/PSA-1jh/PSA-1ji/PSA-1jj/PSA-1jk/PSA-1jl/PSA-1jm/PSA-1jn/PSA-1jo/PSA-1jp/PSA-1jq/PSA-1jr/PSA-1js/PSA-1jt/PSA-1ju/PSA-1jv/PSA-1jw/PSA-1jx/PSA-1jy/PSA-1jz/PSA-1ka/PSA-1kb/PSA-1kc/PSA-1kd/PSA-1ke/PSA-1kf/PSA-1kg/PSA-1kh/PSA-1ki/PSA-1kj/PSA-1kk/PSA-1kl/PSA-1km/PSA-1kn/PSA-1ko/PSA-1kp/PSA-1kq/PSA-1kr/PSA-1ks/PSA-1kt/PSA-1ku/PSA-1kv/PSA-1kw/PSA-1kx/PSA-1ky/PSA-1kz/PSA-1la/PSA-1lb/PSA-1lc/PSA-1ld/PSA-1le/PSA-1lf/PSA-1lg/PSA-1lh/PSA-1li/PSA-1lj/PSA-1lk/PSA-1ll/PSA-1lm/PSA-1ln/PSA-1lo/PSA-1lp/PSA-1lq/PSA-1lr/PSA-1ls/PSA-1lt/PSA-1lu/PSA-1lv/PSA-1lw/PSA-1lx/PSA-1ly/PSA-1lz/PSA-1ma/PSA-1mb/PSA-1mc/PSA-1md/PSA-1me/PSA-1mf/PSA-1mg/PSA-1mh/PSA-1mi/PSA-1mj/PSA-1mk/PSA-1ml/PSA-1mm/PSA-1mn/PSA-1mo/PSA-1mp/PSA-1mq/PSA-1mr/PSA-1ms/PSA-1mt/PSA-1mu/PSA-1mv/PSA-1mw/PSA-1mx/PSA-1my/PSA-1mz/PSA-1na/PSA-1nb/PSA-1nc/PSA-1nd/PSA-1ne/PSA-1nf/PSA-1ng/PSA-1nh/PSA-1ni/PSA-1nj/PSA-1nk/PSA-1nl/PSA-1nm/PSA-1nn/PSA-1no/PSA-1np/PSA-1nq/PSA-1nr/PSA-1ns/PSA-1nt/PSA-1nu/PSA-1nv/PSA-1nw/PSA-1nx/PSA-1ny/PSA-1nz/PSA-1oa/PSA-1ob/PSA-1oc/PSA-1od/PSA-1oe/PSA-1of/PSA-1og/PSA-1oh/PSA-1oi/PSA-1oj/PSA-1ok/PSA-1ol/PSA-1om/PSA-1on/PSA-1oo/PSA-1op/PSA-1oq/PSA-1or/PSA-1os/PSA-1ot/PSA-1ou/PSA-1ov/PSA-1ow/PSA-1ox/PSA-1oy/PSA-1oz/PSA-1pa/PSA-1pb/PSA-1pc/PSA-1pd/PSA-1pe/PSA-1pf/PSA-1pg/PSA-1ph/PSA-1pi/PSA-1pj/PSA-1pk/PSA-1pl/PSA-1pm/PSA-1pn/PSA-1po/PSA-1pp/PSA-1pq/PSA-1pr/PSA-1ps/PSA-1pt/PSA-1pu/PSA-1pv/PSA-1pw/PSA-1px/PSA-1py/PSA-1pz/PSA-1qa/PSA-1qb/PSA-1qc/PSA-1qd/PSA-1qe/PSA-1qf/PSA-1qg/PSA-1qh/PSA-1qi/PSA-1qj/PSA-1qk/PSA-1ql/PSA-1qm/PSA-1qn/PSA-1qo/PSA-1qp/PSA-1qq/PSA-1qr/PSA-1qs/PSA-1qt/PSA-1qu/PSA-1qv/PSA-1qw/PSA-1qx/PSA-1qy/PSA-1qz/PSA-1ra/PSA-1rb/PSA-1rc/PSA-1rd/PSA-1re/PSA-1rf/PSA-1rg/PSA-1rh/PSA-1ri/PSA-1rj/PSA-1rk/PSA-1rl/PSA-1rm/PSA-1rn/PSA-1ro/PSA-1rp/PSA-1rq/PSA-1rr/PSA-1rs/PSA-1rt/PSA-1ru/PSA-1rv/PSA-1rw/PSA-1rx/PSA-1ry/PSA-1rz/PSA-1sa/PSA-1sb/PSA-1sc/PSA-1sd/PSA-1se/PSA-1sf/PSA-1sg/PSA-1sh/PSA-1si/PSA-1sj/PSA-1sk/PSA-1sl/PSA-1sm/PSA-1sn/PSA-1so/PSA-1sp/PSA-1sq/PSA-1sr/PSA-1ss/PSA-1st/PSA-1su/PSA-1sv/PSA-1sw/PSA-1sx/PSA-1sy/PSA-1sz/PSA-1ta/PSA-1tb/PSA-1tc/PSA-1td/PSA-1te/PSA-1tf/PSA-1tg/PSA-1th/PSA-1ti/PSA-1tj/PSA-1tk/PSA-1tl/PSA-1tm/PSA-1tn/PSA-1to/PSA-1tp/PSA-1tq/PSA-1tr/PSA-1ts/PSA-1tt/PSA-1tu/PSA-1tv/PSA-1tw/PSA-1tx/PSA-1ty/PSA-1tz/PSA-1ua/PSA-1ub/PSA-1uc/PSA-1ud/PSA-1ue/PSA-1uf/PSA-1ug/PSA-1uh/PSA-1ui/PSA-1uj/PSA-1uk/PSA-1ul/PSA-1um/PSA-1un/PSA-1uo/PSA-1up/PSA-1uq/PSA-1ur/PSA-1us/PSA-1ut/PSA-1uu/PSA-1uv/PSA-1uw/PSA-1ux/PSA-1uy/PSA-1uz/PSA-1va/PSA-1vb/PSA-1vc/PSA-1vd/PSA-1ve/PSA-1vf/PSA-1vg/PSA-1vh/PSA-1vi/PSA-1vj/PSA-1vk/PSA-1vl/PSA-1vm/PSA-1vn/PSA-1vo/PSA-1vp/PSA-1vq/PSA-1vr/PSA-1vs/PSA-1vt/PSA-1vu/PSA-1vv/PSA-1vw/PSA-1vx/PSA-1vy/PSA-1vz/PSA-1wa/PSA-1wb/PSA-1wc/PSA-1wd/PSA-1we/PSA-1wf/PSA-1wg/PSA-1wh/PSA-1wi/PSA-1wj/PSA-1wk/PSA-1wl/PSA-1wm/PSA-1wn/PSA-1wo/PSA-1wp/PSA-1wq/PSA-1wr/PSA-1ws/PSA-1wt/PSA-1wu/PSA-1wv/PSA-1ww/PSA-1wx/PSA-1wy/PSA-1wz/PSA-1xa/PSA-1xb/PSA-1xc/PSA-1xd/PSA-1xe/PSA-1xf/PSA-1xg/PSA-1xh/PSA-1xi/PSA-1xj/PSA-1xk/PSA-1xl/PSA-1xm/PSA-1xn/PSA-1xo/PSA-1xp/PSA-1xq/PSA-1xr/PSA-1xs/PSA-1xt/PSA-1xu/PSA-1xv/PSA-1xw/PSA-1xx/PSA-1xy/PSA-1xz/PSA-1ya/PSA-1yb/PSA-1yc/PSA-1yd/PSA-1ye/PSA-1yf/PSA-1yg/PSA-1yh/PSA-1yi/PSA-1yj/PSA-1yk/PSA-1yl/PSA-1ym/PSA-1yn/PSA-1yo/PSA-1yp/PSA-1yq/PSA-1yr/PSA-1ys/PSA-1yt/PSA-1yu/PSA-1yv/PSA-1yw/PSA-1yx/PSA-1yy/PSA-1yz/PSA-1za/PSA-1zb/PSA-1zc/PSA-1zd/PSA-1ze/PSA-1zf/PSA-1zg/PSA-1zh/PSA-1zi/PSA-1zj/PSA-1zk/PSA-1zl/PSA-1zm/PSA-1zn/PSA-1zo/PSA-1zp/PSA-1zq/PSA-1zr/PSA-1zs/PSA-1zt/PSA-1zu/PSA-1zv/PSA-1zw/PSA-1zx/PSA-1zy/PSA-1zz

### 3. Inventory List of Rocky Mountain Arsenal Structures.

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NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA, Release	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME <sup>a</sup> (ft <sup>3</sup> )	ESTI- MATED TOTAL AREA <sup>a</sup> (ft <sup>2</sup> )	STRUCTURE MATRICES <sup>a</sup> (ESTIMATED MAXIMUM THE MASSES IN MATRICES) AND VOLUME (ft <sup>3</sup> )				HISTORICAL USE <sup>a</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>a</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
128	Dichlorodimethyl Sulfide Burning/Pesticide Manufacturing/SPSA-1a	45-01	1	2,000	300	A/C (1) [16]	CA (0.7) [4]	NP <sup>b</sup>	C (18) [296]	The building was used as a residue burning area for HD distillation. Residue was burned in the furnace and disposed of by combustion supplemented by fuel oil. Combustion gases contained sulfur dichloride, hydrogen chloride, carbon dioxide and carbon monoxide. Spills of DCPD, sodium hypochlorite, and sulfuryl chloride occurred.	HISTORICAL: HD breakdown products (chloroacetic acid, ethane, 1,4-dichlorobenzene), distillation residues, fuel oil, sulfur dichloride, hydrogen chloride, DCPD, sodium hypochlorite, sulfuryl chloride, carbon monoxide, carbon dioxide, Neach (calcium hypochlorite) SAMPLING: Dust - Dieldrin, Cd, Cr, Cu, Pb, Zn, As
29	Sodium Hydroxide Make- up/Azodrin Support Structure/SPSA-1a	45-01	1	720	64	A/C (1) [2]	MB (4) [41]	NP	C (6) [20]	The building housed a caustic make up tank and pH control equipment used in the neutralization of fire effluent from the distilled HD decantation pit. Shell clumped they encountered HD between Bulk bags 514 and 529.	HISTORICAL: Sodium hydroxide, HD breakdown products (chloroacetic acid, ethane, 1,4-dichlorobenzene) SAMPLING: Dust - Aldrin, dieldrin, Cd, Cr, Cu, Pb, Zn, As
331	Warehouse/SPSA-1a, 1g	42-01	1	7,200	970	A/C (1) [167]	BT [24]	WB (5) [7]	C (6) [723]	The building stored process chemicals such as iron sulfide and clay.	HISTORICAL: Process chemicals such as iron sulfide SAMPLING: Dust - Aldrin, dieldrin, Cd, Cr, Cu, Pb, Zn, As
532	Pesticide Storage/ Warehouse/SPSA-1a, 1g	42-01	1	7,400	1,000	A/C (1) [167]	NA [25]	P.O (2) [6]	C (6) [783]	Shell stored dieldrin, formulated and packaged atrazine, and mixed chemical SMA 1040H <sup>1</sup> with emulphiphilic, natriphosphate, benzonitrile, formalin, ethylene glycol, kerosene, and technical atrazine to produce Atrazine 4L in the building. Filled containers with phosphon, phosmet, and blakes in building. Previously used for storage with pre-mix contents unavailable in Task 24. Although mentioned, the specific use or occurrence of sulfur monochloride is not described in Task 24.	HISTORICAL: Phosmet, blakes, atrazine, phosphon, dieldrin, sulfur monochloride, emulphiphilic, natriphosphate, formalin, ethylene glycol, kerosene, SMA 1040H <sup>1</sup> , Atrazine 4L SAMPLING: Dust - Aldrin, atrazine, dieldrin, endrin, Cd, Cr, Cu, Pb, Zn, As

<sup>a</sup> Reported and derived data is provided on a per unit basis of this table.  
<sup>b</sup> NP = Not Present  
 NA = Not Available

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STRUCTURE NAME	YEAR BUILT	NO. OF LEVELS	ESTIMATED TOTAL AIR VOL. (cu ft)	EST. MAINT. TOTAL COST (\$)	ESTIMATED MATERIALS - TYPICAL (lb/ft <sup>2</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	WALLS	FLOOR	FOUNDATION		
533	Four-Mile Milehouse Storehouse SPSA 1a	42/51	1	43	19	C (1) [1]	FW (12) HR (1)	FW (12) HR (1)	C (14) [16]	Inflammable storehouse used in conjunction with chemicalized paraffin operations with precise contents unavailable in Task 24. Steel used the building for paint solvent and petroleum storage.	HISTORICAL: Paints, cleaning solvent, paraffin, chlorinated paraffin, herbicides (blades)* SAMPLING: Dust - Aldrin, atrazine, chlorophenylmethyl sulfone, dieldrin, isodrin, C-1, Cu, Pb, Zn, As
534	Chemical Storage SPSA 1a	42/51	1	40	18	AC (1) [8]	FW (1) MP (1)	FW (1) MP (1)	C (16) [17]	Purpose: for chemicalized paraffin plant and also used to store paraffin in storage tanks. Used in association with hydrochloric acid, thermal heat (from laboratory liquidation), and to process. It was later used for storage of miscellaneous items and for use in Cu removal. Benzene and heptane tanks occurred near the building. Although mentioned specific use or occurrence of any mixed acid base and material are not described in Task 24.	HISTORICAL: Heptane, Hg, paraffin, mixed acid, benzene, acetone, benzene, hydrochloric acid, chlorinated paraffin, heptachlor, cyclohexanone, paraffin, Cu, herbicides (blades)* SAMPLING: Dust - DDE, atrazine, chlorophenylmethyl sulfone, dieldrin, Cd, Cr, Cu, Pb, Zn, As Structure Material: TCLP: Ba, dieldrin, dieldrin, benzene, methylene chloride, methylalyl ketone
534A	Chem Storage and Sol. Cont. SPSA 1a	47/51	1	1,500	250	HA [15]	FW (1) HA (1)	FW (1) HA (1)	C (16) [17]	Two storage tanks used for paraffin storage were removed from the site so that Building 534 could be built. Building was used to store storage facility with precise contents unavailable in Task 24.	Total Waste Materials: Cr, Zn, Hg, dieldrin HISTORICAL: Paraffin, herbicides (blades, paraffin) SAMPLING: Dust - Aldrin, atrazine, chlorophenylmethyl sulfone, dieldrin, Cd, Cr, Cu, Pb, Zn, As

NOTE: All chemical and material information is based on the best available information.  
\* For more information, see Task 24.  
\* For more information, see Task 24.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA	YEAR BUILT / MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME (cu ft)	ESTIMATED TOTAL AREA (sq ft)	STRUCTURE MATERIALS* (ESTIMATED MATERIAL TYPE PERCENTAGE)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
5348	Pandora Munitions Building SPSA 1a	65 VJ	3	7,500	400	CA (10%) [4]	CA (10%) [10]	CC (14%) G (10%) [11]	G (6) [2/3]	The building housed nitration process machinery and pipe fitting equipment for the plant. Acid spills occurred and a truckle was reported containing 65 percent sulfuric acid. Contaminated sump and sewer lines, and sulfuric acid vapors were reported to enter the building. Building operations emitted nitrogen emissions. A heavy bromine vapor, a tank of sulfuric acid, and a tank of dinitro and acid occurred. Dual applied soda ash to a spill of dinitro and mixed acid.	HISTORICAL: Phosgene, dinitro, mixed acid, sulfuric acid, sulfuric vent vapors, bromine vapors, sewer fumes, nitrogen vapors, soda ash, sulfuric, herbicides (blacks), supona. SAMPLING: Dust - Alaraz, chlorophenylmethyl sulfone, Cd, Cr, Cu, Pb, Zn, As
534C	Emergency Generator Electrical Vault SPSA 1a	NA01	1	43	20	CA	CA (2)	NP	G (6)	The building was used as an electrical vault with housed electrical switch gear.	HISTORICAL: Herbicides (blacks, phosgene) SAMPLING: Dust - Alaraz, atrazine, chlorophenylmethyl sulfone, dieldrin, parathion, Cd, Cr, Cu, Pb, Zn, As
534D	Emergency Generator SPSA 1a	NA01	1	160	35	(M 11) [1]	C (14) [6]	NP	G (6) [6]	The building used to house an emergency generator.	SAMPLING: Dust - Dieldrin, Cd, Cr, Cu, Pb, Zn, As
536	Ammonium Nitrate Storage SPSA 1a	4501	2	3,900	680	C (12) [74]	G (12) [12]	NP	G (15) [2/2]	The building stored liquid crude HD in storage tanks. After HD operations, storage tanks were decontaminated with sulfuric acid. Later the building was used to store acid, caustic, and mixed acid (sulfuric and nitrogen) 155mm, 105mm, and 75mm shells filled with crude HD were stored in the building, and steam flaring sulfuric acid was used to decontaminate the shells.	HISTORICAL: Mixed acid (sulfuric and nitrogen acid), dinitro, HD breakdown products (nitrobenzene, nitrobenzene, nitrobenzene) sulfuric acid, acid caustic, LW

NOTE: Abbreviations for chemical symbols are given in the Appendix.

Percentages are estimated from visual inspection of the structure.

NA01: Not Applicable

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA NUMBER	YEAR BUILT MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	ESTIMATED TOTAL VOLUME - (yd <sup>3</sup> )	STRUCTURE MATERIALS* (ESTIMATED MATERIAL QUANTITIES IN TONS)				HISTORICAL USE*	POTENTIAL HAZARDOUS CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
537	Thaw House SPSA 1a	45-01	1B	16,000	2,100	C (H) [35]	MB (H) [257]	CC (24) C (H) [19]	C (12) [13-18]	The building acted as a thaw house in which leachate HD was poured and "Trel O Lin" was added to create HD. The building was also used to recondition hot containers previously filled with HD, phosphoric acid and LW and to demilitarize HD-filled munitions by extracting aquant and pumping the aquant into hot containers. The munition shells were dropped into decontamination tanks containing sodium nitric acid. Phosphoric acid was transferred from existing containers to modified containers and cyanogen chloride bombs were demilitarized in the building. Equipment was recontaminated with sulfuric acid and caustic following HD operations. A spill of HD was decontaminated with Super Tropical Bleach.	HISTORICAL: HD breakdown products (chloroacetic acid, ethane, 1,4 oxathiane, thioether), Tetra-O-Lite, phosphoric acid, sulfuric acid, sodium hydroxide, sodium nitric acid, cyanogen chloride, Super Tropical Bleach
538	Ton Container Reconditioning Plant SPSA 1a, 1b, 1c	45-01	1	12,000	1,100	A/C (1) [2]	PW (9) CA (0.2)	NP	C (6) [1-05]	The building was used to thermally decontaminate containers which previously contained crude HD and GB. Following operations, the facility was decontaminated with sulfuric acid. Building was later used to recondition containers which previously stored HC, phosphoric acid and LW. Sulfuric acid and caustic were used in the operations. It was also used to demilitarize HD bombs and cyanogen chloride bombs. HD was reconditioned in oil fired furnaces and shells were decontaminated in sulfuric acid and nitric acid. GB-specific decontamination and HD were burned in the hydrogen furnace. Sodium hydroxide, sulfur dioxide and hydrogen chloride were used in building operations.	HISTORICAL: HD breakdown products (chloroacetic acid, ethane, 1,4 oxathiane, thioether), hydrazine, sulfuric acid, nitric acid, phosphoric acid, cyanogen chloride, LW, GB, sodium hydroxide, sulfur dioxide, hydrogen chloride, oil
538A	Compressor Building SPSA 1b 1c	45-01	1	380	66	A/C (1) [4]	MB (H) [94]	FB (0.5) [2]	C (6) [2-4]	The building acted as a change house where personnel from HD operations could change clothing and take a break.	HISTORICAL: HD breakdown products (chloroacetic acid, ethane, 1,4 oxathiane, thioether)
539	Electrical Substation Building SPSA 1a	45-01	1	26-0	15	NA	NA	NA	NA	No prior chemical use reported.	HISTORICAL: None

[illegible]

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (SICUT AREA, Subarea)	YEAR BUILT MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME (ft <sup>3</sup> )	ESTIMATED TOTAL AREA (sq ft)	STRUCTURE MATERIALS ESTIMATED MAXIMUM DIMENSIONS (FEET)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
540	Ten Container Renovation Plant-SPSA 1b, 1g	57-01	1	3,200	270	CA (0.2) [4]	FW (9) CA (0.2)	NP	C (6) [24R]	The building was used in renovation (chemical neutralization, cleaning, and painting) of ten containers that temporarily stored HD. Empty cyanogen chloride bomb casings were cleaned in the building by removing a sodium malaphosphate compound. Empty HD shell casings went through several chemical filled vats including chrome, acid. Building contained ash residue (primarily of iron carbide, oxides, and sulfur) from operations that occurred in the building. It was also used to vaporize bomb from a rubbing effluent and to store bomb salt from phosphorus operations.	HISTORICAL: HD breakdown products (phosgene and, dithene, 1,4 dioxane, isocyanide), boric salts, chromic acid, cyanogen chloride, paint, iron carbide, oxides, sulfur, sodium malaphosphate compound, phosgene boric
541	Warehouse-White Phosphorus Filling SPSA 1a, 1g	42-01	1	7,700	770	AC (11) [9]	CM (0.06) [7]	NP	C (6) [6/3]	Originally a warehouse for LW which was later converted to a white phosphorus filling facility which used a solution of sodium silicate. Building was converted back to a warehouse to store and paint granules. Phosphy water was diverted to a surface drainage ditch north of the building.	HISTORICAL: White phosphorus, LW, paint, phosphy water, sodium silicate
541A	Warehouse-SPSA 1g	53-01	1	26	9	CA	MR (8) [7]	NP	C (6) [2]	The building stored (5 (o cyclohexyl methylphosphorus fluoride) tubes for M15 granules.	HISTORICAL: GF
542	Dugout Product Storage General Storage-SPSA 1a, 1g	42-01	1	7,100	1,000	AC (0.8) [18]	CA (12) [4]	WD (9) [4]	C (6) [75.1]	A storage warehouse for LW and white phosphorus complex and shell drummed powder with precise contents unavailable in Task 24. Fitzsimmons Army Medical Center stored unspecified miscellaneous products and 10 gallons of acetone.	HISTORICAL: LW, white phosphorus, acetone, other historically associated chemicals not available SAMPLED: Dual: sulfur, sulfur, (chlorophenylmethyl sulfone isomer), Cd, Cr, Cu, Pb, Zn, As, Hg

NOTE: A worded and not a worded is provided in the last page of this table.  
 \* (SICUT) for structure and data.  
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Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION, STUDY AREA - Subarea	YEAR BUILT, MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	ESTIMATED TOTAL SHED VOLUME - (yd <sup>3</sup> )	STRUCTURE MATERIALS* (ESTIMATED MAXIMUM THICKNESS IN INCHES AND VOLUME IN yd <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTENSION WALLS	INTERIOR WALLS	FOUNDATION		
5431	Maintenance Shop/Instrument Lab/SPSA-1g	4501	1	16 040	2 000	AC (4) [232]	MR (8) [65]	BR, C [65]	C (12) [769]	As a maintenance shop, petroleum products, paints, thinners, and other solvents were utilized in the instrument lab; mercury was found to be used and a spill of mercury was reported in 1983.	HISTORICAL: Mercury, paints, petroleum products, solvents, thinners SAMPLING: Surface Soil (0 - 2 in): Aldrin, DDE, DDT, dieldrin, endrin, isodrin Surface Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chlorobenzene, chlorophenylmethyl sulfoxide, chromium, copper, DDE, DDT, DBCP, DCPD, dieldrin, dithiane, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, sapon, thiodiglycol, zinc Subsurface Soil (2 - 5 ft): 1,1,1-trichloroethane, (5 - 20 ft) benzene, bicycloheptadiene, chloroform, tetrachloroethylene Groundwater: Benzene, bicycloheptadiene, carbon tetrachloride, chlorobenzene, chloroform, ethylbenzene, m-xylene, tetrachloroethylene, toluene, trichloroethylene, xylenes, 1,1-dichloroethane, 1,1-dichloroethylenes, 1,2-dichloroethylenes, 1,1,1-trichloroethane, 1,1,2-trichloroethane

NOTE: A symbol and description list is provided on the last page of this table.  
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Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA - Subarea	YEAR BUILT - MAP SECTION	NO OF LEVELS*	ESTIMATED TOTAL AIR VOLUME* (yd <sup>3</sup> )	ESTIMATED TOTAL VOLUME* (yd <sup>3</sup> )	STRUCTURE MATERIALS* (ESTIMATED MAXIMUM VOLUMES IN YD <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
543A1	Steam Meter PUSPSA-1g	52-01	1H	89.2	11	AC [1]	MR (B) [4]	NP	C (B) [2]	In the steam meter station, mercury was used and was reported as spilled in 1975. A Shell survey of this pit indicated that mercury leaked from instruments during steam pressure surges; however, air samples did not indicate any presence of mercury.	HISTORICAL: Mercury  SAMPLING: Surficial Soil (0 - 2 in): Aldrin, DDE, DDT, dieldrin, isodrin  Surficial Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chlordane, chlorophenylmethyl sulfide, chlorophenylmethyl sulfoxide, chromium, copper, DDE, DDT, DBCP, DCPD, dieldrin, dithiane, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, supona, thiodiglycol, zinc  Subsurface Soil: (2 - 5 ft) 1,1,1-trichloroethane, (5 - 20 ft) methylene chloride, tetrachloroethylene  Groundwater: Benzene, bicycloheptatriene, carbon tetrachloride, chlorobenzene, chloroform, m-xylene, tetrachloroethylene, toluene, trichloroethylene, xylene, 1,1,1-trichloroethane

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA - Subarea	YEAR BUILT / MAP SECTION	NO. OF LEVELS*	ESTIMATED TOTAL AIR VOLUME* (ft <sup>3</sup> )	EST. MAINT. TOTAL AREA* (sq. ft.)	STRUCTURE MATRICES* (ESTIMATED MINIMUM THICKNESSES IN INCHES) AND VOLUME (IN FT <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTENSION WALLS	INTERIOR WALLS	FOUNDATION		
542B1	Maintenance Office/SPSA-1g	52/05	1	4,200	590	C (6) [161]	M3 (8) [121]	N1*	C [173]	In the maintenance shop, chemicals used consist of petroleum products, paints, thinners, and solvents	HISTORICAL: Paints, petroleum products, solvents, thinners  SAMPLING: Soil (0 - 2 in): Aldin, DDE, DDT, dieldrin, endrin, isodrin  Soil (0 - 2 ft): Aldin, arsenic, cadmium, chlordane, chlorophenylmethyl sulfide, chlorophenylmethyl sulfonate, chromium, copper, DDE, DDT, DBCP, DCPD, dieldrin, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, sumatriptan, zinc  Subsurface Soil (2 - 5 ft): methylene chloride, 1,1,1-trichloroethane, (5 - 20 ft) benzene, bicycloheptadiene, chloroform, methylene chloride, tetrachloroethylene  Groundwater: Benzene, bicycloheptadiene, chloroform, methylene chloride, tetrachloroethylene, 1,1,1-trichloroethane

NOTE: A symbol and description is provided on the last page of this table.  
\*ESTIMATED MINIMUM THICKNESSES  
\*ESTIMATED VOLUME

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA - Building	YEAR BUILT / MAP SECTION	ESTIMATED TOTAL VOLUME (cu ft)	EST. MATED TOTAL VOLUME (cu ft)	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN Yr <sup>1</sup>				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
					ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
544	Heavy Equipment Maintenance Shop/SPSA-1g	53/01	2,300	170	CM (0.06) [7]	CM (0.06) [1]	WD (4) [21]	C (8) [142]	The building served as a heavy equipment and maintenance repair shop. It also stored petroleum products, paints, thinners, solvents, degreasers, insecticides, kerosene, and the following pesticides: Cu acetoarsenite, chlordane, lindane, DDT, carbaryl, propoxur, baygon propoxur, diazinon, warfanti, silychline grain, posson grain, anticoagulant dusting powder, calcium cyanide, diaquat, duron, borate-bromacil mixture, simazine, bordeaux mixture, 2,4,5-T, 2,4-D, 2,4-D, sodium 2,2-dichloropropionate, thiram, boric acid, dalapon, endrin, pyrethrin, alsmi, de-paster, dead weed, dequala water weed killer, insecticide chlordane, insecticide naled, insecticide slup dichlorovos, 797-A powdered insecticide, pyrethrin, silica gel, aranan, thiam, arsenate of Pb, baygon roach, propoxur, cyanogas, calcium cyanide, herbicide dimethyl tetrachlorophthalate, malathion, Zn phosphide phosphide.	HISTORICAL: Petroleum products, paints, thinners, solvents, degreasers, insecticides, kerosene, Cu acetoarsenite, chlordane, lindane, DDT, carbaryl, propoxur, baygon propoxur, diazinon, warfanti, silychline grain, posson grain, anticoagulant dusting powder, calcium cyanide, diaquat, duron, borate-bromacil mixture, simazine, bordeaux mixture, 2,4,5-T, 2,4-D, sodium 2,2-dichloropropionate, thiram, boric acid, dalapon, endrin, pyrethrin, alsmi, de-paster, dead weed, dequala water weed killer, insecticide chlordane, insecticide naled, insecticide slup dichlorovos, 797-A powdered insecticide, pyrethrin, silica gel, aranan, thiam, arsenate of Pb, baygon roach, propoxur, cyanogas, calcium cyanide, herbicide dimethyl tetrachlorophthalate, malathion, Zn phosphide
545	Paint Shop/SPSA-1g	53/01	490	20	CM (0.04) [3]	CM (0.04) [3]	NP	C (6) [17]	Maintenance shop which used petroleum products, paints, thinners, and solvents to paint and clean equipment	HISTORICAL: Petroleum products, paints, thinners, solvents
546	Sewage Lift Station/SPSA-1g	54/01	25	11	C (8) [27]	C (8) [179]	NP	C [11]	No prior chemical use reported	HISTORICAL: None
548	Water Pumping Station/SPSA-1g	62/01	1,400	320	C (2) [27]	C (12) [179]	NP	C (12) [96]	No prior chemical use reported	HISTORICAL: None
549	Hazardous and Cooling Tower/SPSA-1g	57/01	5,600	620	C (8) [10]	PW (12) [120]	WD [120]	C [444]	No prior chemical use reported	HISTORICAL: None
550	Lift Station/SPSA 1d, 1g	64/01	5	5	C (6) [5]	NP	NP	C [5]	No prior chemical use reported	HISTORICAL: None

\* A symbol and acronym list is provided on the last page of this table.  
 1. The chemical matrices listed are based on the last known use of the structure.  
 2. The chemical matrices listed are based on the last known use of the structure.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA / Building	YEAR BUILT / MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL VOLUME - (yd <sup>3</sup> )	EST. MAILED TOTAL VOLUME - (yd <sup>3</sup> )	STRUCTURE MATRICES - (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN YD <sup>3</sup> )				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
552†	Valve Pit (control station for Building 551, the elevated water storage tank)/SPSA-1g	5/01	0	93	49	C (12) [12]	C (12) 18	NP	C (12) [25]	No prior chemical use reported	<p><u>HISTORICAL:</u> No historically associated chemicals</p> <p><u>SAMPLING:</u> Soil/Solid Sols (0 - 2 in): Aldrin, DDE, DDT, dieldrin, endrin, toxidrin</p> <p><u>Soil/Solid Sols (0 - 2 ft):</u> Aldrin, arsenic, cadmium, chlordane, chlorophenylmethyl sulfide, chlorophenylmethyl sulfoxide, chromium, copper, DDE, DDT, DRCP, DCPD, dieldrin, dithane, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, soxona, triodiglycol, zinc</p> <p><u>Subsurface Sol:</u> (5 - 20 ft) methylene chloride</p> <p><u>Groundwater:</u> Benzene, bicycloheptadiene, carbon tetrachloride, chlorobenzene, chloroform, trichloroethylene, toluene, trichloroethylene</p>
553	Vault/SPSA-1g	5/01	1	19	7	CM (2) [1]	CM (2) [1]	NP	C (30) [4]	No prior chemical use reported	<p><u>HISTORICAL:</u> None</p>
555	Guardhouse/Gas Misk Training/SPSA-1g	5/01	1	6:	5	A/C [2]	AB [2]	NP	WD (3) [1]	No prior chemical use reported	<p><u>HISTORICAL:</u> None</p>
557	Storage Yard Storage/Maintenance/SPSA-2c	60/01	1	400	48	CM (0.66) [3]	CM (0.66) [3]	NP	C (6) [45]	The building stored salvage yard equipment with precise contents unavailable in Task 24	<p><u>HISTORICAL:</u> Historically associated chemicals not available</p> <p><u>SAMPLING:</u> Dust - Aldrin, chlorophenylmethyl sulfone, dieldrin</p>

[illegible]

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER <sup>a</sup>	STRUCTURE DESCRIPTION <sup>b</sup> STUDY AREA - Building	YEAR BUILT <sup>c</sup> MAP SECTION	NO. OF LEVELS <sup>d</sup>	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	ESTIMATED TOTAL AREA - (yd <sup>2</sup> )	STRUCTURE MATRICES <sup>e</sup> (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE <sup>f</sup>	POTENTIAL HAZARDOUS CHEMICALS <sup>g</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
561	Bicycle 2.5-diene Unit Control House/SPSA-1a	50/01	1	740	170	C (6) [23]	PW (12) BR (10)	NP	C (6) [148]	The building acted as the process unit for bicyclopentadiene and intermediate product used in diene production. Chemicals used in production include: bicyclopentadiene, acetylene, DCPD, hexachlorocyclopentadiene, No 2 fuel oil, and bicyclopentadiene bottoms. The area around the building was often hydrocarbon soaked and weekly cleaning procedures were implemented.	HISTORICAL: Bicyclopentadiene, cyclopentadiene, acetylene, DCPD, hexachlorocyclopentadiene, bicyclopentadiene bottoms, No 2 fuel oil, hydrocarbons, alkenes, intermediates
561A	Acetylene Compressor/SPSA-1a	49/01	1	400	400	NP	NP	NP	C (4) [138]	The building acted as an acetylene compressor unit for the bicyclopentadiene operations which used cyclopentadiene and bicyclopentadiene. An unknown quantity of Hg spilled near the building. Although maintained, specific use or occurrence of calcium carbide is not described in Task 24, however, calcium carbide is associated with acetylene production.	HISTORICAL: Acetylene, calcium carbide, Hg, bicyclopentadiene, cyclopentadiene
571	Vent Gas Burner/SPSA-1a	68/01	1	350	28	CM	CM	CM	C (6) [24]	The building was used to burn and scrub vent gases and waste liquids comprised of acetone, methanol, hexane, chloroform, carbon tetrachloride, methyl chloride, trimethyl phosphine, natural gas, azodim, vapors, nudin, methylisobutyl ketone, and acetaldehyde. A spill of 50 percent methylisobutyl ketone and other related process materials occurred.	HISTORICAL: Methylisobutyl ketone, azodim, nudin, vapors, methylisobutyl ketone, acetaldehyde, natural gas, acetone, methanol, hexane, chloroform, carbon tetrachloride, methyl chloride, trimethyl phosphine SAMPLING: Dust - Dieldrin
571A	Electrical Vault/SPSA-1a	68/01	1	35	8	CM (2) [1]	PW (19) CM (2)	NP	C (6) [8]	No prior chemical use reported.	HISTORICAL: None

<sup>a</sup> A symbol and acronym list is provided on the last page of this table.  
<sup>b</sup> MAP SECTION IDENTIFICATION OF THE  
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### 3. Inventory List of Rocky Mountain Arsenal Structures.

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NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA - Subarea	YEAR BUILT/ MAP SECTION	NO. OF LEVELS*	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	EST. MAILED TOTAL AREA - (yd <sup>2</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
571B	Tank Room/ Hexachlorocyclo- pentadiene Drum Storage/SPSA-1a,1f	NA/01	1	2,700	110	CM [1]	CM	NP	C (12) [113]	A storage tank area for heavy and light organic liquids drums of hexachlorocyclopentadiene bottoms, acetone washes from the azodim and vapona production, and recovered chloroform. Building was also used for emergency storage of possible waste of nudin, DET knockout pots, azodim and vapona vent line knockout pots. Spills of hexachlorocyclopentadiene, sulfonyl chloride, and methylsulfonyl ketone mixture occurred. Although mentioned, specific use or occurrence of bleach is not described in Task 24.	HISTORICAL: Azodim, hexachlorocyclopentadiene, heavy and light organic liquids, sulfonyl chloride, methylsulfonyl ketone, bleach, azodim, vapona, acetone, chloroform, nudin, DET knockout pots  SAMPLING: Dust - Aldrin, Cd, Cr, Cu, Pb, Zn, As
605	Flammable Materials Storehouse-WSA	57/03	1	65	2	CM	CM	NP	WD Piers (6) [1]	The building stored cylinders of compressed gases such as nitrogen, oxygen, and acetylene and flammable material.	HISTORICAL: Gas cylinders of nitrogen, oxygen, acetylene, flammable material
606	Flammable Materials Storehouse-WSA	57/03	0	1	1	NP	NP	NP	WD Piers (6) [1]	The building stored gas cylinders of compressed gases such as nitrogen, oxygen, acetylene, and empty gas cylinders.	HISTORICAL: Gas cylinders of nitrogen, oxygen, acetylene
607	Flammable Materials Storehouse-WSA	57/03	1	54	2	NP	NP	NP	WD Piers (6) [1]	The building stored flammable materials and cylinders of compressed gas such as nitrogen, oxygen, and acetylene.	HISTORICAL: Flammable materials, gas cylinders of nitrogen, oxygen, acetylene
608	Flammable Materials Storehouse-WSA	57/03	1	54	2	CM	CM	NP	WD Piers (6) [1]	The building stored flammable materials and cylinders of compressed gas such as nitrogen, oxygen, and acetylene.	HISTORICAL: Gas cylinders of nitrogen, oxygen, acetylene
611	Data Processing Building Logistics Area Administration/ WSA	42/02	1	2,800	440	A/C (1) [41]	MB [210]	MB (6) [72]	C (6) [114]	No prior chemical use reported.	HISTORICAL: No historically associated chemicals  SAMPLING: Soil (0 - 2 in): DDT, dieldrin, endrin Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chloridane, chromium, copper, DDE, DDT, DBCP, kalium, endrin, fluoranthene, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, Zn, C

\* Symbols and acronyms listed are provided on the last page of this table.

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Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA / ADDRESS	YEAR BUILT / MAP REFERENCE	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME <sup>a</sup> (yd <sup>3</sup> )	EST. MATED TOTAL AREA <sup>a</sup> (sq. ft.)	STRUCTURE MATRICES <sup>a</sup> (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE <sup>a</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>a</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
612	Courier Building Logistics Area Administration/ WSA	4/1/64	1	2,900	240	AC (1) [53]	C (8) [54]	P/D [10]	C (8) [60]	The building was originally constructed as an infirmary. Although unspecified chemicals were used for blood and urine analysis and wash water from X-ray processing were reported in Task 24, no further information was given.	HISTORICAL: Unspecified chemical used for blood and urine analysis, X-ray chemicals  SAMPLING: Soil: 0 - 2 in. DDT, dieldrin, endrin Soil: 0 - 2 ft. Aldrin, arsenic, cadmium, chlorobenzene, chromium, copper, DDE, DDT, DBCP, dieldrin, endrin, fluoranthene, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc  Air: Mercury, chromium, toluene, copper, zinc Dust/Vacuum: Cadmium, chromium, copper, lead, zinc, toluene, mercury
613	Management Information/ Logistics Area Administration/ WSA	4/2/64	2	3,300	480	C (7) [68]	BR (8) [180]	P/D [16]	C (8) [149]	No prior chemical use reported	HISTORICAL: No historically associated chemicals  SAMPLING: Soil: 0 - 2 in. Aldrin, DDT, dieldrin Soil: 0 - 2 ft. Aldrin, arsenic, cadmium, chlorobenzene, chromium, copper, DDE, DDT, dieldrin, endrin, fluoranthene, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc
614	Warehouse WSA-7a	4/2/63	1	7,100	910	AC (1) [167]	CA (0.5) [24]	WC (6) [1]	C (24) [713]	The building stored materials such as solvents, paints, oil, thinners, and possibly hexamethylphosphoramide	HISTORICAL: Solvents, paints, thinners, hexamethylphosphoramide, oils
615	Warehouse WSA-7a	4/2/63	1	7,100	910	AC (1) [167]	CA (0.5) [24]	WC (6) [1]	C (24) [713]	The building stored solvent, paints, oils, and railroad box cars. Later, NOAA stored nonhazardous, nonflammable materials and equipment	HISTORICAL: Solvents, paints, oils

<sup>a</sup> A spread and summary of data presented in the table of this table.  
SOURCE: Table 11 of 4  
Page 1, 1 page

3. Inventory List of Rocky Mountain Arsenal Structures.

NUMBER	STRUCTURE DESCRIPTION (STUDY AREA - SURNAME)	YEAR BUILT BY SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME (yd <sup>3</sup> )	ESTI- MATED TOTAL AREA (sq ft)	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
16	Warehouse WSA	42/03	1	11,000	910	AC (1) [167]	CA (0 5) [1-4]	WC (6) P/D [3]	C (24) [713]	The building stored bulk quantities of pesticides and other material including paint, thinners, solvents, oxygen gas cylinders, acetylene gas cylinders, DOT, granular polyvinyl alcohol laboratory reagents, ether, acetone, RTV, DB 3, sodium carbonate, tetrahydrofuran, methanol, xylol, toluene, styrene, and toluene.	HISTORICAL: pesticides, paint, solvents, thinners, gas cylinders - acetylene and oxygen, DOT, polyvinyl alcohol, laboratory reagents, ether, acetone, RTV, DB 3, sodium carbonate, tetrahydrofuran, methanol, xylol, toluene  Structure Matrices*: TCLP: Ba, methylene chloride, toluene, methoxychlor  Total Waste Methods: Cr, Pb, Zn, methylene chloride, toluene, hexachlorobenzene, tetrahydrofuran  HISTORICAL: Solvents, paints, oils, other historically associated chemicals unavailable
17	Warehouse WSA	42/03	1	11,600	910	AC (1) [167]	CA (0 5) [24]	WC (6) P/D [3]	C (24) [713]	The building stored solvents, paints, oils, equipment, and field survey material. It also was used as a cold storage warehouse with precise contents unavailable in Task 24.	

\*Symbol and acronym list is provided on the last page of this table.  
 \*Source: FATHS 11.01.01  
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Table 3. Inventory List of Rocky Mountain Arsenal Structures.

Structure Number	Structure Name (see map)	Year Built	No. of Levels	Estimated Total Volume (cu ft)	Estimated Total Area (sq ft)	Structure Materials (Estimated Weights and Dimensions)				Historical Use	Potential Associated Chemicals
						Roof	Exterior Walls	Interior Walls	Foundation		
6219	Structure 6219 (see map)	1954	1	14,000	890	AC (2) [156]	BR (8) [247]	BR (8) [5]	C (12) [74]	Chemical wastes stored in the building included paints, varnishes, lacquers, chemical solvents, and industrial chemicals. Transformers and other electrical equipment were also stored here. (Later on property disposal (the usual building for storage of nuclear materials) and confidence in the material.	HISTORICAL: Industrial chemicals, lacquers, paints, solvents, thinner  SAMPLING Surficial Soil (0 - 2 m): Aldrin, DDT, dieldrin Surficial Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chromium, copper, DDT, dieldrin, fluoranthene, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc  HISTORICAL: Hydrocarbons, N-nitrosodipropylamine, other potentially associated chemicals not available  SAMPLING Surficial Soil (0 - 2 m): Aldrin, DDT, dieldrin Surficial Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chromium, copper, [DDT] dieldrin, fluoranthene, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc
6220	Structure 6220 (see map)	1954	1	1,800	160	AC (0.5) [13]	PW (10) BR (8) [12]	BR (8) [12]	C (6) [36]	The building was used as a paint shop and to store and repair various mechanical parts. Supplies of paint and paint in packages and in cans were stored in this building. (see map)	HISTORICAL: Solvents, paints, may have contained particles and insecticides
6221	Structure 6221 (see map)	1954	1	1,800	160	AC (0.5) [13]	BR (8) [12]	BR (8) [12]	C (6) [36]	The building was used as an equipment storage and repair shop. (see map)	HISTORICAL: Oil, grease

Table 3 Inventory List of Hushy Mountain Arsenal Structures

Inventory List of Hushy Mountain Arsenal Structures	Inventory List of Hushy Mountain Arsenal Structures	Inventory List of Hushy Mountain Arsenal Structures
<p>1. <b>Structure 1</b></p> <p>Location: 1000 ft. N. of Main Entrance</p> <p>Structure Description: 1000 ft. N. of Main Entrance</p> <p>Structure Number: 1000</p> <p>Structure Name: 1000</p> <p>Structure Type: 1000</p> <p>Structure Material: 1000</p> <p>Structure Color: 1000</p> <p>Structure Height: 1000</p> <p>Structure Width: 1000</p> <p>Structure Depth: 1000</p> <p>Structure Volume: 1000</p> <p>Structure Weight: 1000</p> <p>Structure Age: 1000</p> <p>Structure Condition: 1000</p> <p>Structure Status: 1000</p> <p>Structure Notes: 1000</p>	<p>2. <b>Structure 2</b></p> <p>Location: 1000 ft. N. of Main Entrance</p> <p>Structure Description: 1000 ft. N. of Main Entrance</p> <p>Structure Number: 1000</p> <p>Structure Name: 1000</p> <p>Structure Type: 1000</p> <p>Structure Material: 1000</p> <p>Structure Color: 1000</p> <p>Structure Height: 1000</p> <p>Structure Width: 1000</p> <p>Structure Depth: 1000</p> <p>Structure Volume: 1000</p> <p>Structure Weight: 1000</p> <p>Structure Age: 1000</p> <p>Structure Condition: 1000</p> <p>Structure Status: 1000</p> <p>Structure Notes: 1000</p>	<p>POTENTIAL CONTAMINATED AREA</p> <p>1. <b>Structure 1</b></p> <p>Location: 1000 ft. N. of Main Entrance</p> <p>Structure Description: 1000 ft. N. of Main Entrance</p> <p>Structure Number: 1000</p> <p>Structure Name: 1000</p> <p>Structure Type: 1000</p> <p>Structure Material: 1000</p> <p>Structure Color: 1000</p> <p>Structure Height: 1000</p> <p>Structure Width: 1000</p> <p>Structure Depth: 1000</p> <p>Structure Volume: 1000</p> <p>Structure Weight: 1000</p> <p>Structure Age: 1000</p> <p>Structure Condition: 1000</p> <p>Structure Status: 1000</p> <p>Structure Notes: 1000</p>

Table 3 Inventory List of Huxley Mountain Arsenal Structures.

Inventory Item	Structure Name	Year Built	Area (sq ft)	Estimated Value (\$)	Condition	Remarks	Material
626	Machine and Working Shop	4204	0	100	NP	NP	NP
	Heavy Equipment Shop	4794	0	10	NP	NP	NP
627	Machine and Working Shop	4204	0	100	NP	NP	NP
	Heavy Equipment Shop	4794	0	10	NP	NP	NP

NOTE: All values are estimates and are not to be used for budgeting purposes. The values are based on the best available information and are subject to change.

STATION NUMBER	STRUCTURE DESCRIPTION STUDY AREA NUMBER	YEAR BUILT MAP SCALE (INCHES)	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME (cu ft)	EST. MAILED TOTAL VOL. (cu ft)	APPROXIMATE MAILED VOLUME (cu ft)				POTENTIAL ADSORBED (GRAMS)
						1	2	3	4	
6271	Venice Maritime Ship Storage WYA	4204	1	11,000	7,000	400	400	400	400	100,000
6272	Flamingo Marina Storage WYA	4104	1	11,000	7,000	400	400	400	400	100,000
6273	St. John's Marina Storage WYA	4104	1	11,000	7,000	400	400	400	400	100,000
6274	St. John's Marina Storage WYA	4104	1	11,000	7,000	400	400	400	400	100,000

[illegible]

100

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA	YEAR BUILT / REPAIR / MODIFIED	NO. OF LEVELS	ESTIMATED TOTAL AREA (sq. ft.)	DATE BUILT (approx.)	STOCKPILE MATERIALS* (Estimated Maximum for each structure)				HISTORICAL USE	POTENTIAL ASSOCIATED CHEMICALS*
						SOIL	SLURRY	SLUDGE	WASTE		
6307	East Master House WSA	1911	1	1,100	1911	Medium (100 ft)	None	None	None	This building was a natural gas metering and regulation station.	<u>HISTORICAL:</u> Natural gas  <u>SAMPLING:</u> Surface Soil (0 - 2 in): NSC  Surface Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chromium, copper, DDT, dieldrin, fluoranthene, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc
6319	Rocky Mountain Arsenal Benzene Storage (Historical) Fuel Engine Shop WSA 6c 6d	1904	1	4,000	1904	Medium (100 ft)	High (100 ft)	High (100 ft)	High (100 ft)	Some solvents possibly were used in the cleaning and repair of automobiles and trailers, and the solvents were also pumped to a tank east of the facility. No other information was provided in the file.	<u>HISTORICAL:</u> Solvents  <u>SAMPLING:</u> Surface Soil (0 - 2 in): Aldrin, DDT, dieldrin  Surface Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chlordane, chromium, copper, DBCP, DDE, DDT, dieldrin, fluoranthene, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc  Subsurface Soil (2 - 5 ft) trichloroethylene, (5 - 20 ft) methylene chloride, tetrachloroethylene  Groundwater: Benzene, chloroform, trichloroethylene, 1,2-dichloroethylenes, 1,1,2-trichloroethane
631A	Flammable Materials Storage WSA 6c	1914	1	400	1914	Medium (100 ft)	None	None	None	The building stored paint oil, parts for diesel engines, and other materials, cleaning solvents, and paint thinner.	<u>HISTORICAL:</u> Paint, oil, cleaning solvents, paint thinner, flammable material, acid

WSA 6307, 6319, and 631A are located in the same area as the 6307 structure.

Table 3. Inventory List of Rocky Mountain Arsenal Structures

Structure Number	Structure Name	Year Built	Estimated Total Area (sq. ft.)	Estimated Total Volume (cu. ft.)	Structural Materials			Historical Use	Potential Associated Chemicals
					Concrete	Steel	Wood		
6307	Gas Fuel Tank	42-14	1,000	1,000	100%	0%	0%	Historical: Coal, diesel fuel, fuel oil, natural gas Sampling: Soil (0-2 in): Aldrin, DDT, dieldrin Soil (2-6 in): Aldrin, arsenic, cadmium, chloroform, chromium, copper, DDE, DDT, dieldrin, fluoranthene, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc	
6313	California Wing Laboratory	42-14	1,000	1,000	100%	0%	0%	Historical: Isocyanates, paints, thinners, acid	
6314	California Wing Laboratory	42-14	1,000	1,000	100%	0%	0%	Historical: Isocyanates, paints, thinners, acid	
6315	California Wing Laboratory	42-14	1,000	1,000	100%	0%	0%	Historical: Isocyanates, paints, thinners, acid	

Table 3. Inventory List of Rocky Mountain Arsenal Structures

STRUCTURE NUMBER	STRUCTURE NAME / STUDY AREA	YEAR WHEN MAP NOTED	NO. OF LEVELS	ESTIMATED TOTAL SQ. FEET	EST. MAX. TOTAL TONNAGE	STRUCTURE MATERIALS AND CONSTRUCTION				POTENTIAL ASSOCIATED CHEMICALS
						FOUND	CONCRETE	STEEL	WOOD	
6347	Flammable Materials Storage WSA	4, 04	1	1,000	50	1,000	NA	NA	NA	HISTORICAL: Alcohol, chloroform, ether, oil, paints SAMPLING: Surficial Soil (0 - 2 m): Aldrin, DDT, dieldrin Surficial Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chlordane, chromium, copper, DDE, DDT, dieldrin, fluoranthene, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc HISTORICAL: None
635	Aluminum Storage WSA	4, 03	1	2,000	47	1,000	NA	NA	NA	HISTORICAL: None
636	Corrosive Storage WSA	4, 04	1	2,000	44	1,000	NA	NA	NA	HISTORICAL: None
641	Metals Storage WSA	4, 04	0	NA	NA	NA	NA	NA	NA	HISTORICAL: Historically associated chemicals not available
643	Flammable Materials Storage WSA	4, 03	1	1,000	50	1,000	NA	NA	NA	HISTORICAL: DDT, naled, wico ground squirrel bait, aldrin, DDE, diazinon, Tordon 101 mixture, bordeaux mixture, herbicide 2,4-D
644	Non-Combustible Storage WSA	NA/03	0	NA	NA	NA	NA	NA	NA	HISTORICAL: None
644A	Gas Storage WSA	NA/03	0	NA	NA	NA	NA	NA	NA	HISTORICAL: Historically associated chemicals not available
646	Flammable Liquid Building WSA	NA/04	0	NA	NA	NA	NA	NA	NA	HISTORICAL: Pesticides, herbicides
647A	Motor Fuel Dispensing WSA	4, 04	1	4,417	4	4,417	NA	NA	NA	HISTORICAL: None

NA = Not Available  
NA/03 = Not Available 2003  
NA/04 = Not Available 2004

Table 3. Inventory List of Rocky Mountain Arsenal Structures

STRUCTURE NUMBER	STRUCTURE TYPE OR DESCRIPTION STUDY AREA NUMBER	YEAR BUILT	ESTIMATED TOTAL AREA (sq. ft.)	ESTIMATED TOTAL VOLUME (cu. ft.)	STRUCTURE MATERIALS (ESTIMATED BASED ON DATA IN THE FILES)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
					ROCK	WOOD	STEEL	CONCRETE		
647B	Water Paved Variance Storage WVA 7a	4-194	1,300	1,300	NA	W (11) [11]	W (11) [11]	W (11) [11]	No prior chemical use reported	HISTORICAL: None
647C	Water Paved Variance Storage WVA 7a	4-194	29	29	NA	W (14) [14]	W (14) [14]	W (14) [14]	No prior chemical use reported	HISTORICAL: None
647D	Water Paved Variance Storage WVA 7a	4-194	29	29	NA	W (14) [14]	W (14) [14]	W (14) [14]	No prior chemical use reported	HISTORICAL: None
648	Head and Pump and Boiler Storage WVA 6a	4-194	49	49	NA	W (14) [14]	W (14) [14]	W (14) [14]	No prior chemical use reported	HISTORICAL: None
670	Water Paved Variance Storage WVA 7a	4-194	1,300	1,300	NA	W (11) [11]	W (11) [11]	W (11) [11]	No prior chemical use reported	HISTORICAL: None
673	Water Paved Variance Storage WVA 7a	4-194	29	29	NA	W (14) [14]	W (14) [14]	W (14) [14]	No prior chemical use reported	HISTORICAL: None
680	Water Paved Variance Storage WVA 7a	4-194	29	29	NA	W (14) [14]	W (14) [14]	W (14) [14]	No prior chemical use reported	HISTORICAL: None
684	Water Paved Variance Storage WVA 7a	4-194	29	29	NA	W (14) [14]	W (14) [14]	W (14) [14]	No prior chemical use reported	HISTORICAL: None
686	Water Paved Variance Storage WVA 7a	4-194	29	29	NA	W (14) [14]	W (14) [14]	W (14) [14]	No prior chemical use reported	HISTORICAL: None

\* NA = Not Available

[illegible]

$\frac{d}{dt} \left( \frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA SURNAME)	YEAR BUILT (MAP SECTION)	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME <sup>a</sup> (yd <sup>3</sup> )	ESTIMATED TOTAL SURFACE AREA <sup>a</sup> (yd <sup>2</sup> )	STRUCTURE MATERIALS <sup>a</sup> (ESTIMATED MAXIMUM DIMENSIONS IN INCHES AND VOLUME IN YD <sup>3</sup> )				HISTORICAL USE <sup>a</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>a</sup>
						ROOF	WALLS EXTERIOR	WALLS INTERIOR	FOUNDATION		
7221	Facilities Maintenance/ SPSA-1b	60-01	1	2,100	98	CM (1) [1]	CM (100x4) [1]	NP	C, (6) [77]	The building was used to house electrical equipment, and carpenter shops. Any electrical use in the building is not described in Task 24.	HISTORICAL (Other historically associated chemicals not available)  SAMPLING Dust, Chalk  Surface Soil (0 - 2 in) NSC  Surface Soil (0 - 2 ft) Aldrin, arsenic, cadmium, chlorobenzene, chloroacetic acid, chlorophenylmethyl sulfonate, chromium, copper, DDE, DDT, DBCP, DCPD, dioxin, dibutyltin oxide, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, saponin, benzophenone, zinc  Subsurface Soil (2 - 5 ft) tetrachloroethylene, 1,1,1-trichloroethane  Groundwater: Benzene, carbon tetrachloride, chlorobenzene, chloroform, m-xylene, tetrachloroethylene, toluene, trichloroethylene, xylene, 1,1,1-trichloroethane

NOTE: Aerial and ground photographs were used to estimate dimensions.  
 a. Data are approximate and based on visual inspection.  
 b. Data are based on visual inspection.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA NUMBER)	YEAR BUILT (MAP SECTION)	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME ( $\text{m}^3$ )	ESTIMATED TOTAL VOLUME ( $\text{m}^3$ )	STRUCTURE MATHEMATICS (ESTIMATED MAXIMUM DIMENSIONS IN METERS AND VOLUME IN $\text{m}^3$ )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOM	WALLS EXTENSION	FLOORS	FOUNDATIONS		
7281	Dechlorodethyl Sulfide Filling Pesticide Storage Warehouse/SPSA 1g	45.01	1	2 100	1 408	AC (2) [197]	MB (12) [394]	HR (H) [41]	C (12) [604]	The warehouse was used for storage of 105 mm H&S shells and sandblast bottom bomb wooden kits (consisting of potassium chlorate, red phosphorus, silica gel, magnesium oxide, and silicic acid), and pesticides such as pyridin, azetidin, and phthalate. Building was used to receive HD from contractors.	<b>HISTORICAL</b> Azetidin, magnesium oxide, HD breakdown products (nitrobenzene and nitrobenzene isomers), pesticides, phthalate, potassium chlorate, pyridin, red phosphorus, silica silica gel <b>SAMPLING</b> [V.I.] Aldrin, arsenic, cadmium, chlordane, chlorophenylmethyl sulfone, chromium, copper, DDT, DDE, DDEP, DDEP (101) chlordane, endrin, lead <b>Surface Soil (0 - 2 m)</b> Aldrin, chlordane, DDE, DDT, chlordane, endrin <b>Surface Soil (0 - 2 m)</b> Aldrin, arsenic, cadmium, chlordane, chlorophenylmethyl sulfone, chromium, copper, DDE, DDEP, DDEP (101) chlordane, endrin, lead, heptachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, thiophene, zinc <b>Subsurface Soil (2 - 5 ft) tetrachloroethylene, 1,1,1 trichloroethane</b> <b>Groundwater</b> Benzene, carbon tetrachloride, chlorobenzene, chloroform, tetrachloroethylene, toluene, trichloroethylene, xylene, 1,1,1 trichloroethane, 1,1,2 trichloroethane, 1,2,2 trichloroethane, 1,1,1 trichloroethane

NOTE: A symbol and acronym list is provided on the last page of this table.  
OSSA/1990-04-01/Tab3A.H.CHE  
New Orleans, LA 70001

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STORY AREA, ELEVATION)	YEAR BUILT (BASIC SECTION)	NO OF STORIES	ESTIMATED TOTAL AIR VOLUME <sup>a</sup> (cu ft)	ESTIMATED MAINTAINED TOTAL AIR VOLUME <sup>a</sup> (cu ft)	STRUCTURE MATRICES <sup>a</sup> (ESTIMATED MAXIMUM THICKNESS IN INCHES) (AIR VOLUME IN cu ft)				HISTORICAL USE <sup>a</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>a</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
729†	General Purpose Warehouse/SPSA 1g	45/01	1	18,000	1,600	AC (2) [198]	MB (H) [1.14]	DB (PD) AB (H) [1.70]	C (10) [6.70]	It is a warehouse was used to store miscellaneous equipment and office supplies. Specific use of cupric sulfate and sodium nitrate are not described in Table 24.	<u>HISTORICAL</u> Cupric sulfate, sodium nitrate <u>SAMPLING</u> Dust, Arsenic, cadmium, chromium, copper, lead, zinc  Surface Soil (0 - 2 in) Alin, chlordane, DOE, DDT, dieldrin, endrin, hexachlorocyclopentadiene, isodrin  Surface Soil (0 - 2 ft) Aldrin, arsenic, cadmium, chlordane, chlorophenylmethyl sulfide, chromium, copper, DDE, DDT, DPCP, DCPD, dieldrin, dithiane, endrin, fluoranthene, hexachlorocyclopentadiene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, thiophene, zinc  Subsurface Soil (2 - 5 ft) tetrachloroethylene, 1,1,1 trichloroethane  Groundwater Benzene, carbon tetrachloride, chlorobenzene, chloroform, hexachloroethylene, hexachlorobenzene, 1,1,1 trichloroethane
730	Decontamination Pad/ USA 4	NA/06	0'	NA	NA	NA	NA	NA	NA	The pad is used for decontamination of vehicles.	NA
731	Rosario Center/Offical Change House/SPSA 5b	45/01	2	4,900	750	C (12) [1.19]	PW (9) MB (8)	PD [4.8]	C (9) [5.1]	This building was used as a repair shop for air shop and transport and mechanical equipment such as engine repair.	<u>HISTORICAL</u> None

NOTE: A worded and acronym list is provided on the first page of this table.

† Data are from the 1994 inventory.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA - Subarea	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	STRUCTURE MATRIKEN* (ESTIMATED MAXIMUM THICKNESS IN INCHES)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
732	Amy Reserve Warehouse/ M19 Bombs Reworked/ SPSA-5b	45:01	2	3,800	3,900	C (6) [538]	MB (H) [861]	GC (18) P/O [167]	C (6) [2376]	The building was used to paint, rework, and/or disassemble M19 (napalm, white phosphorus) incendiary clusters, M69 (white phosphorus) bomblets, and M25 casing adaptors (M31 cluster). Installation of a white phosphorus shell-filling line was initiated but never completed. The building is still used for office space and storage of equipment and supplies. NOAA stored equipment and supplies for a research laboratory, but specified no flammable, toxic, or dangerous materials were stored. In 1983, oil filled capacitors, transformers, photographic chemicals, and reactants were stored in the building. The building also stored napalm mixing kettles, black powder, and magnesium.	HISTORICAL: White phosphorus, napalm, black powder, magnesium, oil, photographic chemicals, paint, HD* breakdown products (hydrocarbons, acid, alcohols, 1,4 dioxane isotope), distilled HD*, nitrogen HD*, LW*, PCBs
733A	Warehouse/SPSA-5b	45:01	1	130	34	C (6) [7]	MB (H) [17]	NP	C (8) [10]	The building stored picric acid, black powder, metal and plastic adaptor sleeves, armory wire assemblies, and M19 (white phosphorus) and napalm incendiary bomb operations.	HISTORICAL: Picric acid, black powder, napalm, white phosphorus, fuzes
733B	Warehouse/SPSA-5b	45:01	1	130	34	C (6) [7]	MB (H) [17]	NP	C (8) [10]	The building stored signal flares, smoke grenades, and small arms ammunition, and was used as a magazine for M19 (white phosphorus) and napalm incendiary bomb operations.	HISTORICAL: Napalm, white phosphorus
733C	Warehouse/SPSA-5b	45:01	1	130	34	C (6) [7]	MB (H) [17]	NP	C (8) [10]	The building stored black and was used as a magazine for M19 (white phosphorus) and napalm incendiary bomb operations.	HISTORICAL: Napalm, black, white phosphorus, HD*, breakdown products (hydrocarbons, acid, alcohols, 1,4 dioxane isotope), distilled HD*, nitrogen HD*, LW*
733D	Warehouse/SPSA-5b	45:01	1	130	58	C (6) [7]	C (12) WD (4) [17]	NP	C (8) [14]	The building stored black, small arms ammunition, and was used as a magazine for M19 (white phosphorus) and napalm incendiary bomb operations.	HISTORICAL: Napalm, black, white phosphorus, HD* breakdown products (hydrocarbons, acid, alcohols, 1,4 dioxane isotope), distilled HD*, nitrogen HD*, LW*

NOTE: A number and acronym are provided in the last page of this table.

\*Data is based on the 1983 inventory.

New 1983 inventory.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA / ROOMS	YEAR BUILT / MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (ft <sup>3</sup> )	EST. MAINT. TOTAL VOLUME * (ft <sup>3</sup> )	STRUCTURE MATERIALS * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME (ft <sup>3</sup> )				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	WALLS	INTERIOR WALLS	FOUNDATION		
733E	General Purpose Warehouse-SPSA 5b	45.01	1	1.39	65	C (16) [1]	C (12) WO (1) [17]	NP	C (18) [41]	The building stone, bleach, and gas used as magazine for M19 (white phosphorus and napalm) incendiary bomb operations	HISTORICAL: Napalm, bleach, white phosphorus
733F	General Purpose Warehouse-SPSA 6	45.01	1	1.30	69	C (16) [1]	C (12) WO (1) [17]	NP	C (18) [40]	The building stone, bleach, gas, and small arms, also used as a magazine for M69X (white phosphorus and napalm) incendiary bomb operations. Later used by the Fusarovic Foot Cannon. Made of blocks with porous contents (see also in Task 24)	HISTORICAL: Napalm, bleach, white phosphorus, other historically associated chemicals not available
735	Fuel/Oil Product Storage-SPSA 5b	45.01	1	48	46	C (16) [1]	FW (12) MC (16)	NP	C (14) [16]	The building was used as a bunker, alcohols, and oil product storage facility	HISTORICAL: Foamite, oil products, alcohols SAMPLING: Dust, Alums, diatom, chlorophenylmethyl sulfone

[illegible][illegible]

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA - ROOMS	YEAR BUILT/ REPAIR DATE	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (cu ft)	ESTIMATED TOTAL VOLUME - (cu ft)	STRAIN TUBE MATERIALS - ESTIMATED MAXIMUM TENSILE STRESS AND VOLUME IN FT <sup>3</sup>				REMARKS
						ROOM	STRAIN TUBE MATERIALS - ESTIMATED MAXIMUM TENSILE STRESS AND VOLUME IN FT <sup>3</sup>	STRAIN TUBE MATERIALS - ESTIMATED MAXIMUM TENSILE STRESS AND VOLUME IN FT <sup>3</sup>	STRAIN TUBE MATERIALS - ESTIMATED MAXIMUM TENSILE STRESS AND VOLUME IN FT <sup>3</sup>	
7421	Warehouse/SPSA-10, 5A, 5B	4201	1	42,000	4,900	WD (11) [51]	1 [100]	1 [100]	1 [100]	The structure was built in 1942 and is a single-story building. It is located in the SPSA-10 area. The structure is made of concrete and has a flat roof. It is used for storage of materials and equipment. The structure is in good condition and is being maintained.
742A	Tank House/SPSA-5b	5201	1B	940	200	WD CM (12) [55]	1 [100]	1 [100]	1 [100]	The structure was built in 1952 and is a single-story building. It is located in the SPSA-5b area. The structure is made of concrete and has a flat roof. It is used for storage of materials and equipment. The structure is in good condition and is being maintained.

NOTE: A symbol and acronym is a provided in the Table 1. The symbol and acronym is a provided in the Table 1. The symbol and acronym is a provided in the Table 1.





Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA - NUMBER	YEAR BUILT REAR SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUMES (cu ft)	EST. MAINT. TOTAL AREA (sq ft)	SINGLE LINE MAXIMUMS - ESTIMATED MAXIMUMS FOR EACH ROOM OR AREA				HISTORICAL INFO	POTENTIAL CONTAMINATED CAMELERS
						FOUR	THREE	TWO	ONE		
756	Bunker/Scrubber Making House/SPSA 5b	NANA	NA	1.4	140	NA	NA	NA	NA	The building was used as a storage facility for chemical waste. The propellant tanks that were located in the basement of the building contained hydrazine and hydrazine 50 and monomethylhydrazine. The existing scrubber vent pipe emitted a large amount of propellant waste. The installation of a scrubber vent pipe in 1977 made this building a less contaminated area. A 1979 study indicated that the building was not contaminated and a 1979 study indicated that the building was not contaminated. The building was not included in the study.	MUSCHELICAL, hydrazine, monomethylhydrazine, hydrazine 50, monomethylhydrazine, hydrazine 50, monomethylhydrazine
755A	Fire Protection Valve P4/ SPSA 6	NANA	NA	10	NA	NA	NA	NA	NA	NA	NA
759	Drum Cleaning/SPSA 6	NANA	NA	32	NA	NA	NA	NA	NA	The building was used to store fuels, monomethylhydrazine, and other chemical waste. The building was not included in the study. A 1979 study indicated that the building was not contaminated and a 1979 study indicated that the building was not contaminated. The building was not included in the study.	MUSCHELICAL, hydrazine, monomethylhydrazine, hydrazine 50, monomethylhydrazine
760	Drum Storage Facility/ SPSA 6	NANA	NA	4	NA	NA	NA	NA	NA	The building was used to store and remove propellant and other chemical waste. The building was not included in the study. A 1979 study indicated that the building was not contaminated and a 1979 study indicated that the building was not contaminated. The building was not included in the study.	MUSCHELICAL, hydrazine, monomethylhydrazine, hydrazine 50, monomethylhydrazine
761	Drum Loading Station/ SPSA 6	NANA	NA	10	NA	FM	FM	FM	FM	The building was used to transfer chemical waste to other buildings and to store chemical waste. The building was not included in the study. A 1979 study indicated that the building was not contaminated and a 1979 study indicated that the building was not contaminated. The building was not included in the study.	MUSCHELICAL, hydrazine, monomethylhydrazine, hydrazine 50, monomethylhydrazine

NOTE: A number and a letter in the parenthesis indicate the location of the structure. The structure number is the same as the structure number in the inventory list.

[illegible]



[illegible]

1. *Phragmites australis* (Cav.) Trin. ex Steud.  
 2. *Scirpus americanus* (L.) Link.  
 3. *Eleocharis acicularis* (L.) Rostk Schmidt  
 4. *Sagittaria arifolia* (L.) Link.  
 5. *Alisma plantago-foliosa* (L.) Rostk Schmidt  
 6. *Sparganium angustifolium* Michx.  
 7. *Najas* sp.  
 8. *Chara* sp.  
 9. *Utricularia* sp.  
 10. *Hydrocotyle* sp.  
 11. *Salvinia* sp.  
 12. *Wolffia* sp.  
 13. *Elodea canadensis* (Mill.) Rostk Schmidt  
 14. *Hydrilla verticillata* (L.) Rostk Schmidt  
 15. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 16. *Utricularia* sp.  
 17. *Hydrocotyle* sp.  
 18. *Salvinia* sp.  
 19. *Wolffia* sp.  
 20. *Elodea canadensis* (Mill.) Rostk Schmidt  
 21. *Hydrilla verticillata* (L.) Rostk Schmidt  
 22. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 23. *Utricularia* sp.  
 24. *Hydrocotyle* sp.  
 25. *Salvinia* sp.  
 26. *Wolffia* sp.  
 27. *Elodea canadensis* (Mill.) Rostk Schmidt  
 28. *Hydrilla verticillata* (L.) Rostk Schmidt  
 29. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 30. *Utricularia* sp.  
 31. *Hydrocotyle* sp.  
 32. *Salvinia* sp.  
 33. *Wolffia* sp.  
 34. *Elodea canadensis* (Mill.) Rostk Schmidt  
 35. *Hydrilla verticillata* (L.) Rostk Schmidt  
 36. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 37. *Utricularia* sp.  
 38. *Hydrocotyle* sp.  
 39. *Salvinia* sp.  
 40. *Wolffia* sp.  
 41. *Elodea canadensis* (Mill.) Rostk Schmidt  
 42. *Hydrilla verticillata* (L.) Rostk Schmidt  
 43. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 44. *Utricularia* sp.  
 45. *Hydrocotyle* sp.  
 46. *Salvinia* sp.  
 47. *Wolffia* sp.  
 48. *Elodea canadensis* (Mill.) Rostk Schmidt  
 49. *Hydrilla verticillata* (L.) Rostk Schmidt  
 50. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 51. *Utricularia* sp.  
 52. *Hydrocotyle* sp.  
 53. *Salvinia* sp.  
 54. *Wolffia* sp.  
 55. *Elodea canadensis* (Mill.) Rostk Schmidt  
 56. *Hydrilla verticillata* (L.) Rostk Schmidt  
 57. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 58. *Utricularia* sp.  
 59. *Hydrocotyle* sp.  
 60. *Salvinia* sp.  
 61. *Wolffia* sp.  
 62. *Elodea canadensis* (Mill.) Rostk Schmidt  
 63. *Hydrilla verticillata* (L.) Rostk Schmidt  
 64. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 65. *Utricularia* sp.  
 66. *Hydrocotyle* sp.  
 67. *Salvinia* sp.  
 68. *Wolffia* sp.  
 69. *Elodea canadensis* (Mill.) Rostk Schmidt  
 70. *Hydrilla verticillata* (L.) Rostk Schmidt  
 71. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 72. *Utricularia* sp.  
 73. *Hydrocotyle* sp.  
 74. *Salvinia* sp.  
 75. *Wolffia* sp.  
 76. *Elodea canadensis* (Mill.) Rostk Schmidt  
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 80. *Hydrocotyle* sp.  
 81. *Salvinia* sp.  
 82. *Wolffia* sp.  
 83. *Elodea canadensis* (Mill.) Rostk Schmidt  
 84. *Hydrilla verticillata* (L.) Rostk Schmidt  
 85. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 86. *Utricularia* sp.  
 87. *Hydrocotyle* sp.  
 88. *Salvinia* sp.  
 89. *Wolffia* sp.  
 90. *Elodea canadensis* (Mill.) Rostk Schmidt  
 91. *Hydrilla verticillata* (L.) Rostk Schmidt  
 92. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 93. *Utricularia* sp.  
 94. *Hydrocotyle* sp.  
 95. *Salvinia* sp.  
 96. *Wolffia* sp.  
 97. *Elodea canadensis* (Mill.) Rostk Schmidt  
 98. *Hydrilla verticillata* (L.) Rostk Schmidt  
 99. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 100. *Utricularia* sp.  
 101. *Hydrocotyle* sp.  
 102. *Salvinia* sp.  
 103. *Wolffia* sp.  
 104. *Elodea canadensis* (Mill.) Rostk Schmidt  
 105. *Hydrilla verticillata* (L.) Rostk Schmidt  
 106. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 107. *Utricularia* sp.  
 108. *Hydrocotyle* sp.  
 109. *Salvinia* sp.  
 110. *Wolffia* sp.  
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 118. *Elodea canadensis* (Mill.) Rostk Schmidt  
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 120. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 121. *Utricularia* sp.  
 122. *Hydrocotyle* sp.  
 123. *Salvinia* sp.  
 124. *Wolffia* sp.  
 125. *Elodea canadensis* (Mill.) Rostk Schmidt  
 126. *Hydrilla verticillata* (L.) Rostk Schmidt  
 127. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 128. *Utricularia* sp.  
 129. *Hydrocotyle* sp.  
 130. *Salvinia* sp.  
 131. *Wolffia* sp.  
 132. *Elodea canadensis* (Mill.) Rostk Schmidt  
 133. *Hydrilla verticillata* (L.) Rostk Schmidt  
 134. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 135. *Utricularia* sp.  
 136. *Hydrocotyle* sp.  
 137. *Salvinia* sp.  
 138. *Wolffia* sp.  
 139. *Elodea canadensis* (Mill.) Rostk Schmidt  
 140. *Hydrilla verticillata* (L.) Rostk Schmidt  
 141. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 142. *Utricularia* sp.  
 143. *Hydrocotyle* sp.  
 144. *Salvinia* sp.  
 145. *Wolffia* sp.  
 146. *Elodea canadensis* (Mill.) Rostk Schmidt  
 147. *Hydrilla verticillata* (L.) Rostk Schmidt  
 148. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 149. *Utricularia* sp.  
 150. *Hydrocotyle* sp.  
 151. *Salvinia* sp.  
 152. *Wolffia* sp.  
 153. *Elodea canadensis* (Mill.) Rostk Schmidt  
 154. *Hydrilla verticillata* (L.) Rostk Schmidt  
 155. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 156. *Utricularia* sp.  
 157. *Hydrocotyle* sp.  
 158. *Salvinia* sp.  
 159. *Wolffia* sp.  
 160. *Elodea canadensis* (Mill.) Rostk Schmidt  
 161. *Hydrilla verticillata* (L.) Rostk Schmidt  
 162. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 163. *Utricularia* sp.  
 164. *Hydrocotyle* sp.  
 165. *Salvinia* sp.  
 166. *Wolffia* sp.  
 167. *Elodea canadensis* (Mill.) Rostk Schmidt  
 168. *Hydrilla verticillata* (L.) Rostk Schmidt  
 169. *Ceratophyllum demersum* (L.) Rostk Schmidt  
 170. *Utricularia* sp.  
 171. *Hydrocotyle* sp.  
 172. *Salvinia* sp.  
 173. *Wolffia* sp.  
 174. *Elodea canadensis* (Mill.) Rostk Schmidt  
 175. *Hydrilla verticillata* (L.) Rostk



Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/STUDY AREA	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL VOLUME (cu ft)	EST. MAILED TOTAL VOLUME (cu ft)	STRUT CORE MATRICES* (ESTIMATED MAXIMUM FOR EACH MATRICES AND VOLUME in yd <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTENSION WALLS	INTERIOR WALLS	FOUNDATION		
794†	Drum Storage Warehouse ESA	52/51	1	7,840 (cu ft)	400 (cu ft)	C [8]	MB (4) [2-16]	N/P	C [257]	The warehouse stored (a) lined ion containers or minimizers, scrubber residue, unspecified salts, arsenic contaminated salts, wet and dry HD salts, CAIS, arsenic contaminated CAIS salts, CAIS wastes, GB salts, phosphorus scrubber packing, burned HD residue, and ash residue. In April of 1982 it was noted that ten drums of HD salts were corroded and apparently leaking. In 1983, barrels were found of wet HD salts, burned HD residue, and GB salts. The building was decontaminated with a high pressure water and detergent solution and was certified as non-hazardous. Specific use or occurrence of sodium bicarbonate, sodium carbonate, sodium chloride, sodium sulfate, sodium sulfite, sodium fluoride and caustic are not specified in Task 24 although most were probably constituents in the salts.	HISTORICAL: Arsenic, caustic, delugent solution, GB breakdown products (diisopropyl phosphoric acid, methylphosphonic acid, phosphonic acid, phosphoric acid, isophosphoric acid, triphosphoric acid), HD breakdown products (chloroacetic acid, nitroacetic acid, nitrobenzoic acid, phosphoric acid, sodium bicarbonate, sodium carbonate, sodium chloride, sodium fluoride, sodium sulfite, sodium sulfate, unspecified salts)  SAMPLING: Surficial Soil (0 - 2 in): Aldrin, chlordane, DDE, DDT, dieldrin, endrin, hexachlorocyclopentadiene, isodrin  Surficial Soil (0 - 2 ft): Aldrin, arsenic, chlordane, DDE, DDT, dieldrin, endrin, isodrin, hexachlorocyclopentadiene, lead, mercury  (groundwater): Benzene, chloroform

NOTE: A sample and test report is provided in the Appendix of this report.  
 \*Data are from the Rocky Mountain Arsenal Study, Vol. 1, p. 14.  
 †See Appendix 1, Map.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/STUDY AREA NAME	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (yd <sup>3</sup> )	EST. MIN. TOTAL AIR VOLUME * (yd <sup>3</sup> )	SPRINKLER MATERIALS * (ESTIMATED MAXIMUM THICKNESS IN INCHES)				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERNAL WALLS	INTERNAL WALLS	FOUNDATION		
795f	Down Storage Warehouse/ESA	52/31	1	7,400	400	C (10 (64)) [9]	MH (4) [16]	NP	C [57]	<p>The warehouse stored CB filled tin containers or munitions spray dried salts from HD neutralized military equipment, munitions, unsprayed salts, and HD salts contaminated with arsenic. The HD salts consisted of sodium chloride, sodium sulphate, sodium carbonate, and iron oxide. Specific use or occurrence of sodium sulfate, sodium fluoride, caustic, sodium bicarbonate are not described in Task 24, but are probably constituents in the salts. The building was decontaminated with a high pressure water and detergent solution and was certified as nonhazardous</p>	<p><b>HISTORICAL:</b> Arsenic, caustic, detergent solutions, CB breakdown products (hexachlorocyclopentadiene, dimethylmethylphosphonate, phosphoric acid, methylphosphonate, and chloroacetic acid methyl ester, phosphoric acid, isophenyl ester), iron oxide, HD breakdown products (chloroacetic acid and isomeric 1,4 isobutene, butylglycol), sodium bicarbonate, sodium carbonate, sodium chloride, sodium fluoride, sodium sulfate, sodium sulfite, unsprayed salts</p> <p><b>SAMPLING:</b> Surficial Soil (0 - 2 in.) Aldrin, chlordane, DDT, dieldrin, endrin, hexachlorocyclopentadiene, isodrin</p> <p>Surficial Soil (0 - 2 ft) Aldrin, arsenic, chlordane, DDE, DDT, dieldrin, endrin, isodrin, hexachlorocyclopentadiene, monuron</p>

[illegible]

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA	YEAR BUILT/ MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (ft <sup>3</sup> )	ESTD. MAINT. TOTAL COST * (\$)	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN FT <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
796†	Warehouse ESA	53/31	1	7 800	400	C [6]	MH (B) [2'16"]	NP	C [2'57"]	The warehouse stored GB filled ton containers or munitions, rocket propellant, HD salts, HD salts contaminated with arsenic, unspecified salts, and waste salt. In 1983, several drums of HD salts were reported to be leaking. The building was decontaminated with a high pressure water and neutralizants.	<b>HISTORICAL:</b> Arsenic, detergent solutions, GB breakdown products (hexamethyl phosphoramide, dimethylmethyl phosphoramide, hexamethyl phosphoramide, triethylamine, acid, phosphoric acid, hydrochloric acid, hydrofluoric acid), HD breakdown products (hexamethyl phosphoramide, triethylamine, acid, phosphoric acid, hydrochloric acid, hydrofluoric acid), rocket propellant, unspecified salts  <b>SAMPLING:</b> Soil (0 - 2 in): Aldrin, chlordane, DDT, dieldrin, endrin, isodrin  Soil (0 - 2 in): Aldrin, cadmium, chlordane, DDE, DDT, dieldrin, endrin, isodrin, hexachlorocyclopentadiene, mercury  Groundwater: Benzene, chlorobenzene, chloroform, 1,1-dichloroethane, 1,1,1-trichloroethane

NOTE: A symbol and acronym list is provided on the last page of this table.  
†USARMC Rocky Mountain Arsenal  
Date: 10/19/92, 1 page

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (Study Area, Address)	YEAR BUILT (or SECTION)	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME <sup>a</sup> (ft <sup>3</sup> )	EST. MATED TOTAL AREA <sup>a</sup> (sq ft)	STRUCTURE MATRICES <sup>a</sup> (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN FT <sup>3</sup> )				HISTORICAL USE <sup>a</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>a</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
797T	Down Storage Warehouse/ ESA	52/31	1	7 800	480	C [b]	MR (A) [c-16]	NP	C [257]	The warehouse stored GB filled ton containers or munitions, M55 rocket propellant, unspecified salts, dried salts, GB salts, and GB salts stabilized with diisopropyl carbodiimide were stored here. Specific use or occurrence of sodium borate, sodium isopropyl methyl phosphonate, caustic, sodium chloride, sodium sulfite, sodium sulfate, sodium carbonate, and sodium bicarbonate are not described in Task 24, but are probably constituents in the salts. The building was decontaminated with a high pressure water jet detergent solution and was certified as nonhazardous.	HISTORICAL: Caustic, detergent solutions, diisopropyl carbodiimide, GB breakdown products (diisopropylmethyl phosphonate, dimethylmethyl phosphonate, isopropylmethyl phosphonate, acid, methylphosphonic acid, phosphoric acid, triethyl ester, phosphoric acid, triethyl ester), HD breakdown products (chloroacetic acid, dimethyl, 1,4 methylene, isopropyl), rocket propellant, sodium bicarbonate, sodium carbonate, sodium chloride, sodium fluoride, sodium isopropyl methyl phosphonate, sodium sulfate, sodium sulfite, unspecified salts  SAMPLING: Surface Soil (0 - 2 in): Aldrin, chlordane, DDT, dieldrin, endrin, isodrin  Surface Soil (0 - 2 ft): Aldrin, cadmium, chlordane, DDT, dieldrin, endrin, isodrin, mercury  Groundwater: Benzene, chlorobenzene, chlordane, 1,1-dichloroethane, 1,1,1-trichloroethane

NOTE: A symbol and acronym list is provided on the last page of this table.

CLASSIFICATION: UNCLASSIFIED

Date: 07/04/93 1:10pm

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME <sup>a</sup> (ft <sup>3</sup> )	EST. BUILT TOTAL AIR VOLUME <sup>a</sup> (ft <sup>3</sup> )	STRUCTURE MATRICES <sup>a</sup> (ESTIMATED MAXIMUM DIMENSIONS IN INCHES) (AND VOLUME IN YD <sup>3</sup> )				HISTORICAL USE <sup>a</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>a</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
794f	Dum Storage Warehouse/ ESA	52/31	1	7,800	470	C [6]	C [170]	NP	C [178]	The warehouse stored (a) filled tin containers of munitions, M71 GB bombs, sandwhich bullet bombs in cadmium 10th canisters (consisting of potassium chlorate, red phosphorous, silica gel, magnesium oxide, and silica) unspecialized salts, (Wiley) salts, GB salts with stabilizer diisopropyl carbamate, and waste salts. Sodium carbonate, sodium fluoride, sodium isopropyl methyl phosphonate, sodium chloride, sodium sulfate, sodium sulfite, sodium bicarbonate are not described in Table 24 but are probably constituents in the salts. Late in 1982, it was noted that there were two leaking drums of unspecialized combat. The building was decontaminated with a high pressure water and detergent solution and was certified as nonhazardous.	HISTORICAL: Caustic, detergent solutions, diisopropyl carbamate, GB breakdown products (diisopropyl phosphonate, dimethylmethyl phosphonate, isopropylmethyl phosphonate acid, methylphosphonic acid, triethyl ester, phosphoric acid, isophthalic acid, isobutyric acid, HD breakdown products (chloric acid, arsenic, 1,4 methylene bisphosphonic acid), M34 salts, potassium chloride, red phosphorous, silica, silica gel, sodium bicarbonate, sodium carbonate, sodium chloride, sodium fluoride, sodium isopropyl methyl phosphonate, sodium sulfite, sodium sulfate, unspecialized salts, wiley salts  SAMPLING Soil (0 - 2 in): Aldrin, chlordane, DDT, dieldrin, endrin, isodrin  Soil (0 - 2 ft): Aldrin, cadmium, chlordane, DDT, dieldrin, endrin, isodrin, mercury  Groundwater: Benzene, chlorobenzene, chloroform, tetrachloroethylene, trichloroethylene, 1,1-dichloroethane, 1,1-dibromomethane, 1,1,1-trichloroethane  HISTORICAL: No historically associated chemicals  SAMPLING Soil (0 - 2 in): Aldrin, DDE, DDT, dieldrin, endrin, isodrin  Soil (0 - 2 ft): Aldrin, chromium, DDE, DDT, dieldrin, endrin, isodrin, mercury, zinc
801f	Rusko Bakery Shop and PSA	61/25	1	63	12	SM (0/0/4) [1]	SM (1) [1]	NP	C [1]	No prior chemical use reported	

Page 103 of 135. Table 3. Inventory List of Rocky Mountain Arsenal Structures. (Continued on next page)

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA - SEE APPENDIX)	YEAR BUILT MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME (ft <sup>3</sup> )	EST. MADE TOTAL VOL. (ft <sup>3</sup> )	STRUCTURE MATERIALS* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN ft <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
808†	North Boundary Groundwater Treatment Plant/HCSA	78/23	1	2,800	650	CM (0.064) [1]	CM (0.064) [1]	CM (0.064) [0.12]	C [313]	The treatment system removed disopropylmethyl phosphonate and diethylphosphonate from groundwater plumes by using a bentonite filter and carbon treatment system.	HISTORICAL: Bentonite, carbon treatment, DCPD, disopropylmethyl phosphonate SAMPLING: Surficial Soil (0 - 2 in): NSC Surficial Soil (0 - 2 in): NSC Surficial Soil (0 - 2 in): Aldrin, chlordane, DDE, DDT, dieldrin, endrin, toxaphene, mercury
809†	Intruder Groundwater Treatment Plant/HCSA	81/03	1	2,600	320	SM (0.064) [1]	SM (0.064) [1]	SM (0.064) [0.2]	C [78]	The treatment system removed DBCP from groundwater by using a carbon filter.	HISTORICAL: Carbon, DBCP SAMPLING: Surficial Soil (0 - 2 in): NSC
810†	Northwest Boundary Groundwater Treatment Plant/HCSA	NA/27	1	3,800	490	CM (0.064) [1]	CM (0.064) [1]	NA	C [248]	Vitex, benzene (VAC), and DBCP removed from groundwater.	HISTORICAL: Benzene, carbon tetrachloride, chlorobenzene, chloroform, DBCP, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, trans-1,2-dichloroethylene, methylene chloride, 1,1,2,2-tetrachloroethane, tetrachloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, trichloropropane SAMPLING: Surficial Soil (0 - 2 in): NSC Surficial Soil (0 - 2 in): Arsenic, cadmium
825	Remediation Use Structure	NOTE: Built six (6) times; additional information available from PMHMA									
831†	Technical Escort Officer's Quarters/HCSA	NA/35	1B	1,000	120	AC (2)	MB	NA	C [35]	No prior chemical use reported.	HISTORICAL: No historically associated chemicals SAMPLING: Surficial Soil (0 - 2 in): Aldrin, DDT, dieldrin Surficial Soil (0 - 2 in): Aldrin, arsenic, cadmium, chlordane, DDT, DDE, disopropylmethyl phosphonate, endrin, isodrin, lead, mercury

NOTE: A symbol and acronym list is provided on the last page of this table.

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Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA - Building)	YEAR BUILT, MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME (ft <sup>3</sup> )	EST. MATED TOTAL SQ. FT. (ft <sup>2</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN (ft <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
831A1	Garage/Storage Shed NCSA	42/35	1	130	27	A/C (92) [3]	BR (8) [14]	NP	C [7]	No prior chemical use reported.	HISTORICAL: No historically associated chemicals SAMPLING: Surficial Soil (0 - 2 in): Aldrin, DDT, dieldrin Surficial Soil (0 - 2 in): Aldrin, DDT, dieldrin
833	Lumber Storage NCSA	53/35	1	260	79	NA	NA	NA	NA	The building was used for storage with precise contents unavailable in Task 24	HISTORICAL: Historically associated chemicals not available
834	Incinerator/CSA-1d	61/36	1	27	120	CM (0.06)	CM (0.06)	NP	C (18) [15]	The building was used to incinerate sanitary waste and for disposal of contaminated solid waste and chemical waste including spent acid filter cartridges, scrap metal and drums contaminated with aldrin, dieldrin, planavin, and endrin, allyl chloride filters, chlorophenylmethyl sulfone, solid aldrin and endrin, azobin, talin, quinaldine, supona, hexane, unspecified flammable solvents, isopropyl alcohol, benzene, hexane, chemical waste, herbicides (phthal, atrazine)*	HISTORICAL: Spent acid filter cartridges, aldrin, dieldrin, planavin, endrin, allyl chloride filters, chlorophenylmethyl sulfone, azobin, talin, quinaldine, supona, unspecified flammable solvents, isopropyl alcohol, benzene, hexane, mullanol, HD, calcium hypochlorite, hexane, wheat rust trash, methyl cellosolve, metal, chemical waste, herbicides (phthal, atrazine)*
836	Air Force Seismic Monitoring Facility/NCSA-4b-83	63/24	1	3,800	580	A/C [59]	MB (10) [206]	P/D [49]	C (4-) [25.1]	No prior chemical use reported	HISTORICAL: None
840	Remediation Use Structure	NOTE: Built since 1986, additional information available from FMI/IMA									
851	Pistol Range House/ESA	42/19	1	83	6	A/C [7]	WD (15) [7]	NP	WD [1]	Pistol range target house with possible cross-range from Fy buildings	HISTORICAL: Pb

NOTE: A symbol and acronym list is provided on the last page of this table.

ON-SITE/REMEDIAL/RESEARCH/ESA  
New Orleans, LA 70118

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA NUMBER	YEAR BUILT MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME (hr <sup>3</sup> )	ESTIMATED TOTAL VOLUME (hr <sup>3</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN ft <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTENSION WALLS	WALLS	FOUNDATION		
853	Observation Platform Range/ESA	45/30	1	710	94	C (14) [6]	C (14) [15]	C (14) [2]	C (14) [71]	The building was used to store blasting caps	HISTORICAL: Blasting caps
854	Council Wagon	NA/26	1	12	12	NP	C (9) [7]	NP	C (9) [6]	NA	NA
863	Target Range House/SSA	52/12	1	77	5	A/C [2]	WD [2]	NP	WD [1]	The building was used for miscellaneous storage with precise contents unavailable in Task 24	HISTORICAL: Other associated chemicals not available
864	General Storehouse/ESA-3b	52/06	1	170	10	A/C [3]	AB [6]	AB [1]	NP	In 1973 after the toxic storage yard operations, the building was moved to the former toxic gas storage yard. In 1980, the building was moved out of toxic gas storage area. Precise contents stored are unavailable in Task 24	HISTORICAL: Other associated chemicals not available
865	Warehouse/ESA-3b	53/06	1	320	41	CM (0.06)	PW (9) CM (0.06)	NP	C (6) [41]	The building acted as a storage warehouse for the toxic storage yard where of HD and phosphorus were stored, and spills of HD occurred, phosphorus contents stored are unavailable in Task 24. A spill of fuel oil occurred, within the structure	HISTORICAL: HD breakdown products (chloroacetic acid, aniline, 1,4-methane bisphosphorus), phosphorus, fuel oil, other historically associated chemicals not available
866f	Office and Charge House/ Toxic Yard Office/ESA-3b	42/06	1	1,100	140	A/C (2) [20]	BR (8) [27]	BR (8) [20]	C (6) [63]	Materials contained in the storage yard outside the office and charge house included HD, phosphorus, and heptachlor. Calcium hypochlorite powder and unspecialized solutions were used for decontamination. Spills of HD and distilled HD were reported, however, no dates were listed	HISTORICAL: Calcium hypochlorite powder, HD breakdown products (chloroacetic acid, aniline, 1,4-methane bisphosphorus), heptachlor, phosphorus, unspecialized solutions
867A	Toxic Yard/Metal and Wood Shop/ESA	NA/06	1	580	67	A/C [14]	BR (4) [9]	NP	C (6) [44]	The building acted as a carpenter shop used for cutting lumber for the toxic storage yard. Lumber used for miscellaneous storage with precise contents unavailable in Task 24	SAMPLING Soil (0 - 2 m): Aldrin, chlordane, DDE, DDT, dieldrin, endrin Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chlordane, DDE, DDT, dieldrin, dithiane, endrin, oxathiane, triethylglycol HISTORICAL: Other associated chemicals not available

NOTE: A summary and description of the structures is provided on the last page of this table.  
 \*ESAs are listed in the table as follows: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA - Subarea)	YEAR BUILT (MAP SECTION)	NO. OF LEVELS	ESTIMATED TOTAL FLOOR AREA (sq ft)	EST. MATED TOTAL AREA (sq ft)	STRUCTURE MATRICES * ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN 10 <sup>3</sup> ft <sup>3</sup> )				HISTORICAL USE <sup>2</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>3</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
867B	Flammable Materials Storage/ESA	NA/06	1	71	13	AC [2]	WD [2]	C (5)	C (4) [9]	The building stored paint and flammable materials	HISTORICAL: Paint, flammable material
868C	Office/Ton Container Storage Shed/SPA 6	47/01	1	97	24	NA	NA	NA	NA	The building was used to store miscellaneous paints for the hydrating facility with precise contents unavailable in Task 24	HISTORICAL: Historically associated chemicals not available
871A	Warehouse/ESA	45/06	1	200	66	C (6) [12]	PW (12) MB (H)	NP	C (6) [5-3]	The building stored powder bags, M142 fuzes, nylon cartridges, and blasting caps	HISTORICAL: Powder bags, fuzes, nylon cartridges, blasting caps
871B	Warehouse/ESA	45/06	1	200	66	C (6) [12]	PW (12) MB (H)	NP	C (6) [5-3]	The building acted as a loading facility for M74 programs and stored powder bags, M142 fuzes, shells, propellant charges, and Lul assemblies	HISTORICAL: Powder bags, fuzes, propellant charges, Lul assemblies
871C	Warehouse/ESA	45/06	1	200	66	C (6) [12]	PW (12) MB (H)	NP	C (6) [5-3]	The building acted as a loading facility for M74 programs and stored powder bags, M142 fuzes, 209 primers, and fuze splitters	HISTORICAL: Powder bags, fuzes, primers, fuze splitters
871D	Warehouse/ESA	45/06	1	270	86	C (6) [18]	PW (12) MB (H)	NP	C (6) [6-3]	The building stored munition, explosive devices, powder bags, fuzes, and miscellaneous items	HISTORICAL: Powder bags, fuzes, explosive devices, other associated chemicals not available
872A	Warehouse/ESA	45/06	1	270	86	C (6) [18]	PW (12) MB (H)	NP	C (6) [6-3]	The building stored ammunition, explosives, powder bags, M142 fuzes, M115A2, booster adaptors, M76, M12, M13, M12B, M4, and M14 boosters, and M76 boosters	HISTORICAL: Explosives, powder bags, fuzes, boosters, booster adaptors, boosters
872B	Warehouse/ESA	45/06	1	270	86	C (6) [18]	PW (12) MB (H)	NP	C (6) [6-3]	The building stored ammunition, explosives, powder bags, M142 fuzes, M115A2, booster adaptors, M76, M12, M13, M12B, M4, and M14 boosters, and M76 boosters	HISTORICAL: Powder bags, explosives, fuzes, boosters, booster adaptors, boosters
872C	Warehouse/ESA	45/06	1	270	86	C (6) [18]	PW (12) MB (H)	NP	C (6) [6-3]	The building stored ammunition, explosives, powder bags, M142 fuzes, M115A2, booster adaptors, M76, M12, M13, M12B, M4, and M14 boosters, and M76 boosters	HISTORICAL: Powder bags, explosives, fuzes, boosters, booster adaptors, boosters

NOTE: A simplified and summarized list of chemicals is provided on the end page of this table.  
 \*SPA 6: 100% of the total area is covered by the structure.  
 \*\*M142: 100% of the total area is covered by the structure.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION'S STUDY AREA - Subarea	YEAR BUILT/ MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (ft <sup>3</sup> )	ESTIMATED TOTAL VOLUME - (ft <sup>3</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN (ft <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
872D	Warehouse/ESA	45-06	1	270	86	C (6) [16]	PW (12) MB (8)	NP	C (6) [69]	The building stored ammunition, explosives, powder bags, M142 fuzes, large cups with high explosive material, cups for M69X bombs, and white phosphorus items	HISTORICAL: Explosives, powder bags, fuzes, large cups, white phosphorus
873A	Warehouse/ESA	45-06	1	270	86	C (6) [16]	PW (12) MB (8)	NP	C (6) [69]	The building stored powder bags, M142 fuzes, M106 detonators from M69X bombs, M142A and M172A1 fuzes, highly explosive materials, components of the first John GB Warhead, M421 fuzes, composition "B" M45 fuzes, XM912 fuzes, and M140 cyclonite pellets	HISTORICAL: Powder bags, fuzes, explosives, cyclonite pellets, detonators, bursters
873B	Warehouse/ESA	45-06	1	270	86	C (6) [16]	PW (12) MB (8)	NP	C (6) [69]	The building stored powder bags, M142 fuzes, primacord, and demolition blocks	HISTORICAL: Powder bags, fuzes, primacord, demolition blocks
873C	Warehouse/ESA	45-06	1	270	86	C (6) [16]	PW (12) MB (8)	NP	C (6) [69]	The building stored powder bags, M142 fuzes, and TNT	HISTORICAL: Powder bags, fuzes, TNT
874A	Warehouse/ESA	45-06	1	270	86	C (6) [16]	PW (12) MB (8)	NP	C (6) [69]	The building stored powder bags, M142 fuzes, black powder bursters, white phosphorus shells, high explosive material, M45 bursters, composition "B" M45 burster, and components for the first John GB filled munitions	HISTORICAL: White phosphorus, powder bags, fuzes, black powder bursters, explosives
874B	Warehouse/ESA	45-06	1	270	86	C (6) [16]	PW (12) MB (8)	NP	C (6) [69]	The building stored powder bags, M142 fuzes, and M172A1 fuzes	HISTORICAL: Powder bags, fuzes
874C	Warehouse/ESA	45-06	1	270	86	C (6) [16]	PW (12) MB (8)	NP	C (6) [69]	The building stored powder bags, M142 fuzes, MX912 bomb fuzes, and components of the first John GB filled munitions	HISTORICAL: Powder bags, fuzes
874D	Warehouse/ESA	45-06	1	270	86	C (6) [16]	PW (12) MB (8)	NP	C (6) [69]	The building stored powder bags, M142 fuzes, and M69X fuzes, M206A1 hand grenade fuzes, highly explosive material, M62 rocket igniters, and components for M55 rockets, and the first John GB filled munitions	HISTORICAL: Powder bags, fuzes, explosives, rocket igniters

NOTE: A typical and accurate list is provided on the end page of this table.  
 \*Potential associated chemicals are provided on the end page of this table.  
 Date: 01/09/2013 1:43pm

STRACTION NUMBER	STRUCTURE DESCRIPTION STUDY AREA, SURFACE	YEAR BUILT, MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (ft <sup>3</sup> )	EST. MAILED TOTAL VOL. * (ft <sup>3</sup> )	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN FT <sup>3</sup>				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
8811	Igloo Storage-ESA	45/06	1	670	210	C (6) [54]	C (12) [96]	NP	C [72]	The building was used to store white phosphorous, GB, Honest John, GB M190 Warheads, M139 GB bombs, DDJ, cont. unincinerated ammunition, wet and dry alkalis, Gif scrubber salts, GB seal salts, M34 GB salts, fuzes, bursters, explosives, and waste salts	HISTORICAL Adamsite, bursters, DOT, explosives, fuzes, GB breakdown products (hexamethyl phosphoramide, dimethylmethyl phosphonate, isopropylmethyl phosphonate, methylphosphonic acid, triethyl phosphonate, and triphenyl phosphonate), M34 GB salts, waste salts, white phosphorous
8821	Igloo Storage-ESA	45/06	1	670	210	C (6) [54]	C (12) [96]	NP	C [72]	The igloo was used for storage of phosphorus, white phosphorous, Honest John GB M190 Warheads, M139 GB bombs, Adamsite, phosphorus, tear gas, bomb components, fuzes, bursters, explosives, and chloroacetaldehyde	SAMPLING Surface Soil (0 - 2 in.) Dieldrin Surface Soil (0 - 2 in.) Copper, dieldrin HISTORICAL Adamsite, arsenic, bursters, chloroacetaldehyde, explosives, fuzes, GB breakdown products (diisopropylmethyl phosphonate, dimethylmethyl phosphonate, isopropylmethyl phosphonate, methylphosphonic acid, triethyl phosphonate, and triphenyl phosphonate), phosphorus, tear gas, white phosphorous
883	Igloo Storage-ESA	45/06	1	670	210	C (6) [54]	C (12) [96]	NP	C (6) [72]	The building stored bomb components, fuzes, bursters, highly radioactive material, mortar shells, white phosphorus filled igniters, burster tubes for M14 cluster bombs, blasting fuzes, M6 electric and M7 non-electric blasting caps, and (GB) contaminated hydraulic oil. Floor decontaminated with detergent solution and resultant water was tested and confirmed as non-hazardous.	SAMPLING Surface Soil (0 - 2 in.) DDT, dieldrin, endrin Surface Soil (0 - 2 in.) Copper, DDT, dieldrin, endrin HISTORICAL White phosphorous, GB, contaminated hydraulic oil, fuzes, bursters, explosives, igniters, blasting caps

**NOTE** A symbol and acronym are presented in the last table of this table.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA: Subarea	YEAR BUILT MAP DATE	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME (cu ft)	EST. MAILED TOTAL AIR VOLUME (cu ft)	STRUCTURE MATRIKES - (ESTIMATED MAXIMUM DIMENSIONS IN FEET) AND VOLUME IN yd <sup>3</sup>				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						FO	EXT. QIC	WALLS	FOUNDATION		
884	Igloo Storage/ESA	4506	1	670	210	C (6) [54]	C (12) [86]	NP	C (6) [72]	The building stored bomb components, fuzes, bursters, phosphorus igniters, explosive components including M14 cluster bombs, burst tubes, DDT, contaminated ammunition, and steel drums of GB scintillation salts. The floor was decontaminated with detergent water and resultant water was tested and certified as nonhazardous.	HISTORICAL: DDT, white phosphorus, phosphorus, smoke filler, fuzes, bursters, igniters, explosives, GB breakdown products (diisopropylmethyl phosphonic acid, dimethylmethyl phosphonate, isopropylmethyl phosphonic acid, methylphosphonic acid, phosphonic acid, isopropyl ester, phosphoric acid, triphenyl ester)
885	Igloo Storage/ESA	4506	1	670	210	C (6) [54]	C (12) [86]	NP	C [72]	The igloo was used for storage of white phosphorus igniters, Honest John GB M190 Warheads, GB M139 bomblets, DDT contaminated ammunition, bursters, fuzes, bomb components, Adamsite, GB, and GB salts.	HISTORICAL: Adamsite, arsenic, bursters, DDT, fuzes, GB breakdown products (diisopropylmethyl phosphonic acid, dimethylmethyl phosphonate, isopropylmethyl phosphonic acid, methylphosphonic acid, phosphonic acid, isopropyl ester, phosphoric acid, triphenyl ester), white phosphorus  SAMPLING: Soil (0 - 2 in): DDT, dieldrin, endrin Soil (0 - 2 ft): Aldrin, DDT, dieldrin, endrin
886	Igloo Storage/ESA	4506	1	670	210	C (6) [54]	C (12) [86]	NP	C [72]	The igloo was used for storage of bleach, white phosphorus igniters, Honest John GB M190 Warheads, M139 bomblets, and DDT contaminated ammunition. Adamsite and Adamsite-related granules, tablets, purification agent M2 candles, Adamsite 1 agent, tear gas granules, drums containing Adamsite, 37mm projectiles, fuzes, bursters, and other unspecified chemical agents were also stored here.	HISTORICAL: Adamsite, arsenic, bleach, bursters, DDT, GB breakdown products (diisopropylmethyl phosphonic acid, dimethylmethyl phosphonate, isopropylmethyl phosphonic acid, methylphosphonic acid, phosphonic acid, isopropyl ester, phosphoric acid, triphenyl ester), white phosphorus, fuzes, white phosphorus, tear gas, unspecified chemical agent  SAMPLING: Soil (0 - 2 in): DDT, dieldrin, endrin Soil (0 - 2 ft): Aldrin, DDT, dieldrin, endrin
890	Submerged Quench Incinerator/NCSA-4B	NOTE: Built since 1946; additional information available from FRI/MA									

NOTE: A symbol and acronym are provided on the last page of this table.

USCAR: Rocky Mountain Arsenal

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STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA - Building	YEAR BUILT/ MAP SECTION	NO OF LEVELS*	ESTIMATED TOTAL AIR VOLUME - (yd³)	PER MATED TOTAL AREA - (sq ft)	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTENSION WALLS	INTERIOR WALLS	FOUNDATION		
891	Submerged Quench Incinerator/NCSA-4b										
892	Submerged Quench Incinerator/NCSA-4b										
893	Submerged Quench Incinerator/NCSA-4b										
894	Submerged Quench Incinerator/NCSA-4b										
896	Submerged Quench Incinerator/NCSA-4b										
1501	GB Manufacturing/Demineralization Building/HPSA-3	53/25	7B	55,000	8,000	C (16) [2,405]	CC (36) C (8)	C (11) [2,841]	GB manufacturing facility used to manufacture GB from raw chemicals. Some chemicals used in the process include caustic, dechlorase oil, methylene chloride, hydrofluoric acid, disopropyl carbazate, solvents, and tributylamine. Spills of xylene, GB, dichloro, methylene chloride, and hydrofluoric acid occurred. The building was also used to demineralize VX filled tin containers with a chemically treated mixture and caustic. Also demineralized M34 clusters and neutralized GB with caustic and brine solutions which resulted in GB brine salts (halide and tributylammonium salts). In 1977 all caustic, steam, and water lines were changed, tanks and reactors were flushed with caustic and water. Pipe connections for Buildings 1501 and 1703 were flushed and effluent was poured into all water traps. Although monitored, specific use or occurrence of Dowtherm A is not described in Task 24.	HISTORICAL: GB breakdown products (diisopropylamine, phosphoramide, dimethylphosphonate, isopropylamine, diethylamine, methylphosphonic acid, phosphoric acid, triethyl ester, phosphoric acid, triethyl ester), tributylamine, halide salts, tributylammonium salts, xylene, vapors, sodium hydroxide, decabromide, oil, methylene chloride, hydrofluoric acid, Dowtherm A, dichloro, diisopropyl carbodiimide, chlorinated mixture, VX, glycol	SAMPLING Liquid - DIMP

NOTE: A summary and analysis is presented on the last page of this table.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION, STUDY AREA - Building	YEAR BUILT, MAP REFERENCE	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (ft <sup>3</sup> )	EST. MATED TOTAL VOLUME - (ft <sup>3</sup> )	STRUCTURE MATRICES <sup>a</sup> (ESTIMATED MAXIMUM THICKNESS IN INCHES)				HISTORICAL USE <sup>b</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>c</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
1503A	Scrubber Facility/NPSA-3	5/3/75	1B	210	430	CM (0.06)	PW (9) CM (0.06)	NP	C (24) [4/4]	Part of GB complex scrubber system which neutralized residual toxic gas from GB processing and storage facilities. Upper and lower scrubber chambers and drain system were considered to be contaminated with GB. Chemicals used in the GB processing and storage facilities <sup>d</sup> included caustic, dichloro, diisopropyl carbodiimide, chlorinated water, (GB), tributylamine, halide salts, tributyl ammonium salts, styrene, chloroform, dichloro oil, hydrofluoric acid, and Dowtherm A. Solvents were also used. VX was also (de)mineralized in associated structures.	<u>HISTORICAL</u> - Toxic gases from GB processing and storage facilities <sup>d</sup> which could include sodium hydroxide, solvents, dichloro, diisopropyl carbodiimide, chlorinated water, VX, GB breakdown products (diisopropylamine, phosphoric acid, methylphosphonic acid, phosphoric acid, tributylamine, halide salts, caustic, tributyl ammonium salts, styrene, chloroform, dichloro oil, hydrofluoric acid, Dowtherm A.
1503B	Scrubber Facility/NPSA-3	5/3/75	1B	210	75	CM (0.06)	PW (9) CM (0.06)	NP	C (24) [7/5]	Part of GB complex scrubber system which neutralized residual toxic gas from GB processing and storage facilities. Associated chemicals include the same compounds listed for Building 1503A.	<u>HISTORICAL</u> - Same compounds listed for Building 1503A. <u>SAMPLING</u> - Liquid - Chloroform, DIMP, DMMP
1503C	Scrubber Facility/NPSA-3	5/3/75	1	210	75	CM (0.06)	PW (9) CM (0.06)	NP	C (24) [7/5]	Part of GB complex scrubber system which neutralized residual toxic gas from GB processing and storage facilities. Associated chemicals include the same compounds listed for Building 1503A.	<u>HISTORICAL</u> - Same compounds listed for Building 1503A.
1504	Steel Stack/NPSA-3	5/2/75	0	600	630	NP	S (9) [11/7]	NP	C (12) [6/7]	Tall stack which vented air from the GB scrubber facilities (i.e., Buildings 1503A, 1503B, and 1503C) into the atmosphere. Associated chemicals include the same compounds listed for Building 1503A. Solvents were also used. Stack emission contained GB emissions in the early 1970s.	<u>HISTORICAL</u> - Same compounds listed for Building 1503A.
1504A	Monitoring Shed/NPSA-3	4/5/75	1	69	7	ACC [1]	AB	NP	C (6) [5]	Initially located in North Platte with plans use unsuitable in Task 24. Later moved and used as part of a gas station. Moved back to North Platte where it was used as a maintenance station.	<u>HISTORICAL</u> - Gasoline, other historically associated chemicals not available

[illegible]

with  $P = 10\%$  for  $\alpha = 0.05$  and  $P = 10\%$  for  $\alpha = 0.01$ . The results are shown in Table 1. The results show that the power of the test is high for all values of  $\alpha$  and  $P$ . The power of the test is high for all values of  $\alpha$  and  $P$ .

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA NUMBER	YEAR BUILT MAP REFERENCE	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (m³)	ESTIMATED MAINTAINED TOTAL AIR VOLUME * (m³)	STRUCTURE MATERIALS * (ESTIMATED MAXIMUM THICKNESS IN INCHES AND VOLUME IN m³)				HISTORICAL USE *	POTENTIAL ANTIMONY-CONTAINING CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
1601	GB Filling NPSA-9b	5/25	1	76,000	6,500	C (4) [1,100]	C (20)	C (16)	C (16) [5,258]	The building was used to fill munitions with GB, assemble 155mm rocket and M34 cluster bombs. Industrial X-rays using radioactive isotopes were used in the building. The X-ray machine was a sealed source that contained Cesium 27 and produced no wastes. Shells were filled with GB, sprayed with caustic, and painted in the building. Later, phosphate demilitarization operations occurred; whitey bombs were filled with a simulated lethal representant GB, and GB demilitarization disposal operation involving ton containers of GB and M34 bombs occurred in building. Several spills of GB, phosphene, a small leak of Pb azide, and a large 1-g spill occurred. Some of the spills and leaks were treated with caustic, water, and bleach.	HISTORICAL: GB breakdown products (diisopropyl phosphine, dimethylphosphinate, tripropyl phosphine acid, methylphosphonic acid, phosphoric acid, triethyl ester, phosphoric acid triethyl ester), phosphene, Pb azide, Hg, sodium hydroxide, simulated lethal bleach, Cesium 27, paint
1601A	Ammunition Demilitaration Facility NPSA-9c	6/25	1	2,000	270	C (4) [17]	MB (8) [245]	MB (8) [17]	C (10)	The building was used as a ton container storage and unloading facility for GB operations attached to Building 1601. Later used in demilitarization of bulk GB agent and munitions. Several spills of GB occurred and were cleaned with caustic solutions. Prior chemical use includes all compounds listed for Building 1601.	HISTORICAL: Same compounds as listed for Building 1601
1602	Faint Storage NPSA-3	5/25	1	1,800	270	CM [12]	MB (8) [254]	MB (8) [12]	C (6)	The building was constructed as a paint storage and cleaning facility containing slippage tanks that contained caustic solution (possibly alkali). Later used in microlayer time production activities which used an acid tank to mix raw ingredients, including cyclohexane, Pb azide, ethyl-water mixture, caustic, and powder. Building contained packed scrubbers used to process ventilation air from Buildings 1601A and 1606 and to remove GB. A rubber lining (containing sodium hydroxide) fact sheet on rubber was contaminated with GB. Prior chemicals at this includes all compounds listed for Buildings 1601A and 1606.	HISTORICAL: Same compounds listed for Building 1601, acid, powder, cyclohexane, ethyl-water, alkali, raw ingredients, GB breakdown products (diisopropyl phosphine, dimethylphosphinate, tripropyl phosphine acid, methylphosphonic acid, phosphoric acid, triethyl ester, phosphoric acid triethyl ester), phosphene, a diisopropyl phosphine acid, triethyl ester, phosphoric acid, triethyl ester, phosphene, and triethyl ester, GB scrubber lining

**NOTE** A significant amount of research has been conducted on the legal status of transsexuals.

STRUCTURE NUMBER	SITE NAME (LINE DESCRIPTION) STUDY AREA, ADDRESS	YEAR BUILT MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	ESTIMATED TOTAL VOLUME - (yd <sup>3</sup> )	STRUCTURE MATERIALS - (ESTIMATED MAXIMUM THICKNESS IN INCHES AND VOLUME IN YD <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
1603A	Scrubber Facility/NPSA-3	52/25	1B	210	75	CM (10.06)	PW (9) CM (10.06)	NP	C (24) [7%]	Scrubber facility used for GB operations to reduce GB ventilations. Chemicals used in the GB process; and storage facilities <sup>2</sup> could include the same compounds listed for Building 1503A. Also used in demilitarization activities of GB munitions. A 1977 assessment states lower chamber scrubbers, drain system, and upper chambers were considered to be GB contaminated. Causative solution was used in operations.	HISTORICAL Same compounds listed for Building 1503A
1603B	Scrubber Facility/NPSA-3	53/25	1B	210	75	CM (10.06)	PW (9) CM (10.06)	NP	C (24) [7%]	Scrubber facility used for GB operations to reduce GB ventilations. Chemicals used in the GB process; and storage facilities <sup>2</sup> could include the same compounds listed for Building 1503A. Also used in demilitarization activities of GB munitions. A 1977 assessment states lower chamber scrubbers, drain system, and upper chambers were considered to be GB contaminated. Causative solution was used in operations.	HISTORICAL Same compounds listed for Building 1503A

STRUCTURE NUMBER	STRUCTURE DESCRIPTION <sup>1)</sup> STUDY AREA - Sub-area	YEAR BUILT <sup>2)</sup> MAP SECTION <sup>3)</sup>	NO OF LEVELS <sup>4)</sup>	ESTIMATED TOTAL AIR VOLUME <sup>5)</sup> (Vd')	ESTIMATED TOTAL SURFACE AREA <sup>6)</sup> (Sq ft)	STRUCTURE MATERIALS <sup>*</sup> (ESTIMATED MAXIMUM THICKNESS IN INCHES) (AND VOLUME IN YD')				HISTORICAL USE <sup>*</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>*</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
1605	Munitions Storage Igloo/NPSA	5/25	1	360 (Vd')	150 (Sq ft)	C (12) [51]	C (12) [467]	NF <sup>7)</sup>	C (6) [100]	Building 1605 stored CAIS which included X545 (Inphosgene, phosphene simulant), X516 chloroacetaldehyde, X549 adamantane, X550 nitrogen HD, X551 nitrogen LD, X552 chloroacetone, K955 LW, HD, chloroacetone, Inphosgene, chloroacetaldehyde, adamantane, K945 (GB, LW, phosphene simulant, potassium cyanide simulant, simulants for G-, V-, H-type) agents, X302 nitrogen HD, X547 HD gas, acid X548 LW. The following material was stored in unspecified igloos in the North Platte which may include Building 1605: chemical ammunition, contaminated material from Basin A including scrap metal and chemical agent <sup>1)</sup> bombs, miscellaneous chemical agent materials, laboratory materials and chemicals, fuzes, pyrotechnics, incendiary explosives, Basins A, DDT contaminated small arms munition, possible whitey bombs, and CAIS.	HISTORICAL: Fuzes, Pb azide, stimulants for chemical agents <sup>1)</sup> , DDT, laboratory chemicals, pyrotechnics, incendiary explosives, Inphosgene, chloroacetaldehyde, adamantane, nitrogen HD, chloroacetone, LW, HD breakdown products (chloroacetic acid, phosgene, 1,4-dioxane, triethyl ether). GB breakdown products (diethylmethyl phosphonate, diethylmethyl phosphonate, acetylcholinesterase inhibitor, malathion, diazinon, and triphenyl phosphine oxide, triphenyl phosphine, and triphenyl phosphite, VX, potassium cyanide simulant, CAIS, phosphene simulant, cyanide, chemical agent materials, Basin A material.
1606	Cluster Assembly Building/NPSA-9a	5/25	3	76.00 (Vd')	13,000 (Sq ft)	C (4) [1,355]	C (12) [4,467]	P/D [36]	C (12) [6,849]	The building was used for production and packaging of GB filled munition assembly of M14, M29 M125 bombs, rocket filling assembly, production of microgravel and XM47 mines which contained Pb azide, cyclonite, potassium chlorate, red phosphorus, and silica bromination of GB filled munitions occurred in building. Building was decontaminated with caustic and water detergent solution. During demilitarization, there were several chemical agent explosions and asphyxiations.	HISTORICAL: GB breakdown products (triethylmethyl phosphonate, diethylmethyl phosphonate, acetylcholinesterase inhibitor, malathion, diazinon, and triphenyl phosphine oxide, triphenyl phosphine, and triphenyl phosphite), Pb azide, sodium hydride, cyclonite, potassium chlorate, red phosphorus, silica.

NOTE: A symposium and reception will be conducted on the last night of the conference.

NEW ORLEANS, La. 4 Sept.

**Table 3. Inventory List of Rocky Mountain Arsenal Structures.**

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA NUMBER	YEAR BUILT/ MAP SECTION	NO OF LEVELS*	ESTIMATED TOTAL AIR VOLUME** (yd <sup>3</sup> )	ESTD MAILED TOTAL SQM** (sq <sup>2</sup> )	STRUCTURE MATING'S* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN yd <sup>3</sup>				HISTORICAL INFO*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
16071	Warehouse/NPSA	5325	1	27,600	1,700	CA [21] MB (19) [62]	[41] [7]	C (8) [700]	The warehouse stored CAIS, GB, lewisite, phosphene simulant, potassium cyanide, HD, chloropicrin, chlorine acaphenone, liphosgene, sarin, nitrogen HD, tear gas, phosphene, tellurium simulant, waste salts, raw materials, storage acids, and DDT contaminated ammunition	HISTORICAL: Acids, dioxins, arsenic, CAIS, chemical agent salts, chloroacetaldehyde, chloropicrin, DD T, gallium simulant, GB breakdown products (discrepancy), phosphene, disethylphosphonate, triphenylamine, acid methylphosphonate, triphenylamine, phosphene, acid hydrogen sulfide, lewisite, HD breakdown products (chloroacetic acid, dichloroacetic acid, trichloroacetic acid), nitrogen HD, phosphene simulant, potassium cyanide, tear gas, liphosgene, waste salts  SAMPLING Soil (0 - 2 m). Aldin, DOE, dieldrin, and tin, sodium  Surface Soil (0 - 2 ft). Aldin, cadmium, chromium, cobalt, copper, DDE, dieldrin, endrin, fluoranthrene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc  Subsurface Soil (2 - 5 ft) benzene	

**NOTE:** A spreadsheet accompanying this document contains the full range of the data.

**Table 3. Inventory List of Rocky Mountain Arsenal Structures.**

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA - Subarea	YEAR BUILT / MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (ft <sup>3</sup> )	ESTIMATED TOTAL SURF. AREA * (ft <sup>2</sup> )	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESSES IN INCHES) AND (VOLUME IN ft <sup>3</sup> )				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
1608	Munitions Storage Igloo-NPSA-4	53/25	1	360	150	C (12) [51]	NP	C (6) [100]	Building 1608 stored conventional ammunition, explosives, primercord, chemical agent materials, filled munitions, CNU 80s containing liquid filled munitions, nonburstured and burstured munitions, nonstandard chemical agent items, microgravel mines containing Pb azide and cyclonite, 300-gallon vessel and contaminated materials from HD operations, recovered chemical munitions, 3M CNU 80* containers which contain either unknown agent* or HD agent, and liquid samples from Basin A. The following material was stored in unsecured igloos in the North Platte which may include Building 1608: chemical ammunition contaminated material from Basin A including scrap metal, chemical agent* bombs, miscellaneous chemical agent materials, laboratory materials and chemicals, fuzes, pyrotechnics, tetlyl explosives, Pb azide, cyclonite, DDT-contaminated small arms munition, possible white bombs, and CAIS.	HISTORICAL: Pb azide, cyclonite, DDT, HD breakdown products (nitrolic acid, nitram, 1,4-dinitrobenzene, 2,4-dinitrophenol, dimethylhydrazine, isopropyl alcohol, dimethylhydrazine, isopropyl alcohol, phosphoric acid, methylphosphoric acid, triphenyl ester, phosphoric acid, triphenyl ester), VX, chemical agent materials, explosives, primercord, Basin A materials, Basin A liquid samples, laboratory chemicals, fuzes, pyrotechnics, tetlyl explosives, CAIS.	

NOTE: A symbol and acronym list is provided on the last page of this issue.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION? STUDY AREA - Subarea	YEAR BUILT? MAP SECTION?	NO OF LEVELS*	ESTIMATED TOTAL AIR VOLUME * (yd <sup>3</sup> )	EST. MAILED TOTAL VOLUME * (yd <sup>3</sup> )	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND [VOLUME IN YD <sup>3</sup> ]				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
1509	Munitions Storage Igloo NPSA	53/25	1	360	150	C (12) [51]	C (12) [100]	NP	C (6)	The building stored conventional ammunition and explosives, CAIS containing HD, LW, chlorpicrin, phosphene cyanogen chloride, nitrogen HD, tabun stimulant, chloroacetophenone, adamsite, iphoxylene fuze ignitars, time blasting fuzes, 50 caliber shells; H5 caliber ammunition, M16 ammunition, blasting cord, and M72A2 light antitank weapons. The following materials were stored in unspecified igloos in the North Plants which may include Bulking 1609 chemical ammunition, contaminated material from Basin A including scrap metal and chemical agent bombs, miscellaneous chemical agent materials, laboratory materials and chemicals, fuzes, pyrophorics, tetryl explosives, Pb azide, cyclonite, ammunition suspected of containing chemical agent, as filler, DOT-contaminated small arms munition, possible waleysa bombs, and CAIS.	HISTORICAL: Fuzes, pyrophorics, tetryl explosives, Pb azide, cyclonite, HD breakdown products (chloroacetic acid, nitroacetic acid, methoxy-), LW, GB breakdown products (diethylmethyl phosphonate, dimethylmethyl phosphonate, diisopropyl phosphonate, tripropyl ester, phosphoric acid, isophenyl ester), VX, chlorpicrin, phosphene, cyanogen chloride, nitrogen HD, tabun stimulant, chloroacetophenone, adamsite, iphoxylene, DOT, CAIS, blasting cord, laboratory chemicals, chemical agent materials, Basin A material, CAIS
1610	Munitions Storage Igloo NPSA	53/25	1	360	150	C (12) [51]	C (12) [100]	NP	C (6)	The building stored conventional explosives, chemical agent materials including the following laboratory samples, LW, and HD, and nonstandard chemical agent items (not specifically identified). The following materials were stored in unsanitized igloos in the North Plants which may include Building 1810: Uncontaminated materials from Basin A including scrap metal and chemical agent bombs, miscellaneous chemical agent materials, fuzes, pyrophorics, tetryl explosives, Pb azide, cyclonite ammunition suspected of containing chemical agent, as filler, DOT-contaminated small arms munition, waleysa bombs, and CAIS.	HISTORICAL: LW, HD, GB, VX, Pb azide, cyclonite, DOT, fuzes, pyrophorics, tetryl explosives, waleysa, CAIS, Basin A materials

NOTE: A symbol and acronym list is provided in the last page of this table.

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STRUCTURE NUMBER	STRUCTURE DESCRIPTION <sup>1</sup> STUDY AREA - Subarea	YEAR BUILT, <sup>2</sup> MAP SECTION	NO OF LEVELS <sup>3</sup>	ESTIMATED TOTAL AIR VOLUME <sup>4</sup> (ft <sup>3</sup> )	EST. MAXED TOTAL GPM <sup>5</sup> (G <sup>6</sup> )	STRUCTURE MATRICES <sup>*</sup> (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN ft <sup>3</sup> )				HISTORICAL USE <sup>8</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>9</sup>
						ROOF	EXTERIOR WALLS [1.447]	INTERIOR WALLS [618]	FOUNDATION		
1611	Demilitarization Facility/ NPSA-5	53/25	3	26,000	2,400	C (9) [219]	MB (8) [1.447]	MB (8) [618]	C (6)	The building was used for an instrument shop; gymnasium; demilitarization of GB-filled M150 (Himex) John Warheads; demilitarization of DDTC contaminated "rail arms; incineration of M-34 clusters inert parts; destruction of CANS containing HC-1 W, GP, Adamsite, potassium cyanide, triphosgene, chloroacetaldehyde, chloropicrin, cyanogen chloride, nitrogen HD, and simulated talcum, and incineration of Adamsite, Bazin A contaminated equipment, and white phosphorus facility pipes and equipment. Incineration and demilitarization wastes included sodium carbonate, sodium chloride, fly ash, heavy metals and As contaminated dust, ammonia, hydrogen chloride, As peroxide, As oxides, and As tinazuride. Spills of fuel oil and No 2 fuel oil occurred.	HISTORICAL: As oxides, As peroxide, As trioxide, sodium carbonate, No. 2 fuel oil, GB breakdown products (diisopropylamine, phosphine, dimethylamine), naphthalene, diisopropylamine, phosphoric acid, methylphosphonic acid, propionic acid, thionyl sulfide, phosphoric acid, triphenyl ester, DDT, CAS, LW, HD breakdown products (chloroacetic acid, dinitro, 1,4-oathane, thioglycol), Adamsite, polonium cyanide, triphosgene, chloroacetaldehyde, cyanide, phosphorus, chlorine, nitrogen HD, chloropicrin, cyanogen chloride, nitrogen HD, simulated labrum, white phosphorus equipment, fly ash, As oxides, ammonia, hydrogen chloride, fuel oil, heavy metals, sodium chloride, hydrogen chloride, As-contaminated dust, Basen A equipment
1611A	Sentry Station/NPSA	81/25	1	31	4	CM (306) [3]	CM (106) [3]	NP	WD	No prior chemical use reported	Total Wrsia Methods: DDT, DDE, As, Hg <u>HISTORICAL:</u> None
1613	Explosive Unpacking Building/NPSA	53/25	1	330	77	A/C [5]	PW (8) MB (8)	C (12) [7.3]	C (6) [7.3]	The building was used to unload fuzes and bursters; P-antimony contaminated with GB however, Tank 24 located no potential source for the contamination	HISTORICAL: GB breakdown products (diisopropylamine, phosphine, dimethylamine, phosphoric acid, methylphosphonic acid, propionic acid, thionyl sulfide, phosphoric acid, triphenyl ester, DDT, CAS, LW, HD breakdown products (chloroacetic acid, dinitro, 1,4-oathane, thioglycol), Adamsite, polonium cyanide, triphosgene, chloroacetaldehyde, cyanide, phosphorus, chlorine, nitrogen HD, chloropicrin, cyanogen chloride, nitrogen HD, simulated labrum, white phosphorus equipment, fly ash, As oxides, ammonia, hydrogen chloride, fuel oil, heavy metals, sodium chloride, hydrogen chloride, As-contaminated dust, Basen A equipment

NOTE. A syndrome and acronym list is provided on the last page of this letter.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION - STUDY AREA BUILDING	YEAR BUILT, MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (ft <sup>3</sup> )	ESTIMATED MAILED VOLUME * (ft <sup>3</sup> )	STRUCTURE MATRICES * (ESTIMATED MATRICES IN PERCENTAGES AND VOLUMES IN FT <sup>3</sup> )				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
1614	Warehouse-NPSA	5325	1	5,800	260	CM (0.06) [4]	PW (12) CM (0.06)	NP	C (6) [25]	The building stored contaminated equipment including spare items for the GB plant and GB munitions filling decontaminated equipment. Other contaminated equipment not specified in Task 24.	HISTORICAL: GB breakdown products (diisopropylmethyl phosphine, dimethylmethyl phosphine, isopropylmethyl phosphine acid, methylphosphonic acid, phosphine acid, triethyl ester, phosphine acid, isopropyl ester), other historically associated chemicals not available
1615	Warehouse-NPSA	5325	1	2,800	170	CM (0.06) [68]	CM (0.06)	NP	C (6)	The building stored contaminated equipment including spare items for the GB plant and GB munitions filling decontaminated equipment. Other contaminated equipment not specified in Task 24.	HISTORICAL: GB breakdown products (diisopropylmethyl phosphine, dimethylmethyl phosphine, isopropylmethyl phosphine acid, methylphosphonic acid, phosphine acid, triethyl ester, phosphine acid, isopropyl ester), other historically associated chemicals not available
1616	Warehouse-NPSA	5325	1	2,800	82	CM (0.06) [2]	CM (0.06) [79]	P/D	C (6)	The building stored contaminated equipment including spare items for the GB plant and GB munitions filling decontaminated equipment. Other contaminated equipment not specified in Task 24.	HISTORICAL: GB breakdown products (diisopropylmethyl phosphine, dimethylmethyl phosphine, isopropylmethyl phosphine acid, methylphosphonic acid, phosphine acid, triethyl ester, phosphine acid, isopropyl ester), other historically associated chemicals not available
1618	General Storehouse - north of North Plants/NPSA	4825	1	440	36	CM (0.06)	PW (6) CM (0.06)	WD	C (6) [3]	The building originally acted as an oil and grease house. Later the building was moved and used by personnel involved in the wheat rust program as a miscellaneous shop. A 1977 report indicates that no potential contamination exists.	HISTORICAL: Oil, grease, wheat rust
1619	Administration Building - north of North Plants/NPSA	4525	1	91	8	A/C [3]	WD [6]	P/D	C [4]	The building originally served as a railroad office. Later building was moved and possibly involved in the wheat rust program with precise use unavailable in Task 24.	HISTORICAL: Wheat rust
1622	General Storehouse - north of North Plants/NPSA	6325	1	330	34	A/C	PW (6) CM (0.06)	NP	C (6) [3]	The building was used as a miscellaneous building and by personnel involved in the wheat rust program with precise use unavailable in Task 24.	HISTORICAL: Wheat rust

NOTE: A symbol and acronym list is provided on the end page of this table.

OCSA/VERIFICATION/Task 16/17/18  
Rev 07/06/93, 1:52pm

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA - Subarea	YEAR BUILT/ MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - $\text{ft}^3$	EST. MATED TOTAL VOLUME - $\text{ft}^3$	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN $\text{ft}^3$ )				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
1701f	Warehouse NPSA	5/25	1	30,000	2,300	A/C (3) [236]	MB (8) [408]	MB (8) [6]	C (12) [1,084]	The warehouse stored munition components and diisopropylcarbodiimide. In 1977, two drums of diisopropyl carbodiimide were reported leaking	<p><u>HISTORICAL:</u> Diisopropyl carbodiimide</p> <p><u>SAMPLING:</u> Surficial Soil (0 - 2 m): Aldrin, DDE, DDT, dieldrin, endrin, isodrin</p> <p>Surficial Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chromium, DDE, DDT, dieldrin, endrin, heptachlor, isodrin, lead, mercury, methyl naphthalenes, polynuclear aromatic hydrocarbons, pyrene, zinc</p> <p>Air: Mercury, benzene, carbon tetrachloride, chloroform, tetrachloroethylene, copper, zinc</p> <p>Dust/Vacuum: Arsenic, cadmium, chromium, copper, lead, zinc, heptachlor, mercury</p>
1702	Weld Shop NPSA	5/25	1	1,800	49	CM (0.06) [1]	CM (0.06) [49]	NP	C (6)	The building was used as a welding shop and erected from dismantled components of the North Platte structure TW 8. The building may have been contaminated with GB according to a 1977 report	<p><u>HISTORICAL:</u> GB breakdown products (diisopropylmethyl phosphonate, dimethylmethyl phosphonate, isopropylmethyl phosphonic acid, methyl phosphonate, acid phosphonate ester, tributyl ester, phosphoric acid, triethyl ester)</p>

NOTE: A symbol and acronym list is provided on the last page of this table.

NOTE: A symbol and description list is provided on the last page of this table.

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION/STUDY AREA. OUTLINE	YEAR BUILT/ MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (yd <sup>3</sup> )	EST. MAILED TOTAL AREA * (sq ft)	STRUCTURE MATRICES * (ESTIMATED THICKNESS IN INCHES)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
1706	Sanitary Station/Gas House/ NPSA	53/25	1	140	44	C (3) [5]	PW (8) MB (8)	MB (8)	C (4) [40]	No prior use of chemicals reported	HISTORICAL: None
1707	Cooling Tower/NPSA-1	53/25	2B	2,800	530	NP [27]	CC (18) WO (?) [400]	WC (4) [15]	C (9)	No prior use of chemicals reported	HISTORICAL: None
1710†	Cline and Administration Building/NPSA	53/25	1	7,400	920	A/C (2) [137]	MB (12) [430]	P/D (4) [68]	C (12) [337]	The building contained an X-ray and extensive laboratory facilities and blood analysis equipment. Any chemical usage in Building is not described in Task 24.	HISTORICAL: Other historically associated chemicals not available  SAMPLING: Soil (0 - 2 in): Aldrin, DDE, DDT, dieldrin, endrin, isodrin  Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chromium, copper, DDE, DDT, dieldrin, endrin, fluoranthene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc  Subsurface Soil (2 - 5 ft) benzene, (5 - 20 ft) benzene, chloroform, tetrachloroethylene

NOTE: A typical and average is provided on the basis of this table.  
 \*ESTIMATED TOTAL AIR VOLUME  
 \*ESTIMATED TOTAL AREA

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA NUMBER)	YEAR BUILT (MAP SECTION)	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (ft <sup>3</sup> )	ESTIMATED TOTAL VOLUME - (ft <sup>3</sup> )	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN ft <sup>3</sup>				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
17111	Gas Meter House/NPSA 6	5/25	1	5	6	CM (0.064) [0.03]	CM (1) [0.4]	NP	C (12) [4]	This building was used as storage for fuel oil. It was reported in Task 24 that on April 1982, a fuel oil spill occurred along the southeast side of Buildings 1711 and 1712.	HISTORICAL: Fluoranthene, fuel oil, methyl naphthalene, phenanthrene, pyrene  SAMPLING: Soil (0 - 2 in): Aldrin, DDE, DDT, dieldrin, endrin, isodrin  Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chromium, copper, DDE, DDT, dieldrin, endrin, fluoranthene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc  Subsurface Soil (2 - 5 ft - 20 ft) benzene  Groundwater: Benzene, carbon tetrachloride, chloroform, tetrachloroethylene, trichloroethylene, 1,1-dichloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane
1712	Gas Heating Plant/NPSA 6	5/25	1	36	36	CM (0.06) [37]	CM (0.06) [37]	NP	C (6)	The building acted as a boiler plant. Contaminated soil was removed and replaced	SAMPLING: Liquid - Carbon tetrachloride, tetrachloroethane, nontarget compounds  HISTORICAL: None

NOTE: \* A symbol and acronym list is provided on the last page of this table.  
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Table 3. Inventory List of Rocky Mountain Arsenal Structures.

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STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA - Bureau	YEAR BUILT MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME (ft <sup>3</sup> )	ESTI- MATED TOTAL SURF. AREA (sq ft)	STRUCTURE MATRICES* (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN yd <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	WALLS EXTERIOR	WALLS INTERIOR	FOUNDATION		
1713†	Standby Generator Plant/NPSA-1.6	75/25	1	1,600	100	C (0.06-4) [0.5]	CM (0.06-4) [0.7]	NA	[53]	Each generator in the plant holds a fuel oil tank and gauge and an oil cooler	HISTORICAL: Fuel oil, oil  SAMPLING: Surface Soil (0 - 2 in): Aldrin, DDE, DDT, dieldrin, endrin, isodrin  Surface Soil (0 - 2 ft): Aldrin, arsenic, cadmium, chromium, copper, DDE, DDT, dieldrin, endrin, fluoranthene, isodrin, lead, mercury, methyl naphthalenes, phenanthrene, pyrene, zinc  Subsurface Soil (2 - 5 ft) benzene (5 - 20 ft) benzene, chloroform, tetrachloroethylene, Groundwater, Chloroform, tetrachloroethylene, 1,2-dichloroethane
1715	Remediation Use Structure	NOTE: Built since 1976, additional information available from F/MFMA									
1717†	Chlorinating Station/Water Purification NPSA	53/25	1	31	11	A/C (2) [1]	C (8) [8]	NA	NA	Chlorine was used in the process of chlorinating water in the structure	HISTORICAL: Chlorine  SAMPLING: Surface Soil (0 - 2 in): Aldrin, DDE, DDT, dieldrin, endrin, isodrin  Surface Soil (0 - 2 ft): Aldrin, chromium, DDE, DDT, dieldrin, endrin, isodrin, mercury, zinc
1718†	Valve Pit and Chlorinating Station/NPSA	53/25	1	76	24	CM (0.06-4) [0.3]	MB (6) [7]	NA	C	Chlorine was used in the process of chlorinating water in the structure	HISTORICAL: Chlorine  SAMPLING: Surface Soil (0 - 2 in): Aldrin, DDE, DDT, dieldrin, endrin, isodrin  Surface Soil (0 - 2 ft): Aldrin, chromium, DDE, DDT, dieldrin, endrin, isodrin, mercury, zinc

NOTE: A symbol and description are provided in the last page of this table.  
 \*USARMC/ROCKY MOUNTAIN ARSENAL  
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STRUCTURE NUMBER	STRUCTURE DESCRIPTION/ STUDY AREA / Subarea	YEAR BUILT/ MAP SECTION	NO OF LEVELS*	ESTIMATED TOTAL AIR VOLUME** (m³)	EST. MADE TOTAL AIR VOLUME (m³)	STRUCTURE MATRICES* (ESTIMATED MAXIMUM TUN PRESS IN MPa (10-6) AND VOLUME IN m³)				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
1719†	Electrical Distribution System; NPSA	5/2/5	1	36	13	CM (0.064) [0.03]	BR [7]	NA	C [7]	No prior chemical use reported	HISTORICAL: No historically associated chemicals  SAMPLING Surficial Soil (0 - 2 in.) Aldrin, DDE, DDT, dieldrin, endrin, isodrin  Surficial Soil (0 - 2 ft.) Aldrin, arsenic, chlordane, copper, DDE, DDT, dieldrin, endrin, isodrin, lead, mercury, zinc
1726A	Water Metering House; NPSA	NA/25	1	28'	NA	NA	NA	NA	NA	The structure is part of the fire protection system†	No historically associated chemicals†
1727	Industrial Waste Saver Chemical Pump; NPSA 6	52/25	0	470	26	S (0.3)	PW (12) C (1)	NP	C (12) [26]	Liquid anti-process wastes generated during GB production and demilitarization operations were collected and neutralized in the 1727 chemical sump prior to discharge in the chemical sewer system and later Basin F. This waste consisted of all industrial chemicals used in North Plants washdown water, scrubber overflow and some water from the heat exchangers. In 1956, liquid leaked from the sump onto the walkway between buildings 1703 and 1710. In 1982, all liquid in the sump was spray dried. In 1982, waste water was hauled from South Plants to the 1727 sump. After 1982, the sump occasionally "overflowed" and swept along a drainage ditch towards First Creek. The chlorophyllase was detected in two of ten characterised sludge samples from the sump.	(See especially hexachlorocyclopentadiene, methylmercury, phosphoric acid, phosphonic acid, biphosphoric acid, biphosphoric acid, isophenyl aspartate)
1730	Guard Station; SA-3c	53/31	1	38	13	A/C [1]	PW (11) MB (8)	NP†	C (14) [11]	A water wall associated with this building contained elevated radionuclide levels in 1975, but the source of this contamination was not established.	HISTORICAL: Nitrate

$$M_2(\mathbb{C}) \otimes \mathbb{C} \otimes M_2(\mathbb{C}) \cong M_4(\mathbb{C})$$

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA - Building	YEAR BUILT / MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	EST. MAINTAINED TOTAL AIR VOLUME - (yd <sup>3</sup> )	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERNAL WALLS	INTERNAL WALLS	FOUNDATION		
1734	Change House/ESA	55/31	1	190	49	A/C [J]	PW (8) MB (8)	MB (8)	C (4) [46]	The building was constructed as a change house and personnel decontamination facility for individuals working in chemical agent operations Fluorocarbon chemical agents are unavailable in Task 24	HISTORICAL: Chemical agents *
1735	Loading Dock/ESA 3f	NAX31	1	1,500	670	CM (0.06)	PW (12) MB (8)	NP	C (6) [6/71]	Due to its proximity to the new toxic gas storage yard it is possible that chemicals such as LW, HD, phosgene, VX, and GB may have passed through this building. It has been indicated that weapons barrels were moved through the building. However, no reports were located in Task 24 confirming contamination of this building	HISTORICAL: LW, HD breakdown products (chloroacetic acid, urethane, 1,4-methane bis-isopropyl), phosgene, VX, GB breakdown products (diisopropylmethyl phosphonate, dimethylphosphonic acid, phosphoric acid, methylphosphonic acid, diisopropyl phosphonate, superphosphoryl phosphonic acid, methylphosphonic acid, phosphate ester, triethyl ester); phosphorus, and hydrolytic ester
1736	Storage Area (The storage area consists of 37 sheds all named 1776/ESA)	36/31	NA	NA	1,739 total [47] for each building	NA	NA	NA	NA	The area was used for open storage of chemicals that were manufactured on or shipped to HMA. The stored materials included chemical agents: HD, distilled HD, phosgene, and GB filled ton containers; cluster bombs; d-filled HQ-filled bombs; drums containing demilitarized salts, MC-bombs; GB bomblets; phosgene containers; weapons bombs M3A demilitarized salts; CAIS; laboratory sample bottles (containing HD, LW, and phosgene). GB salts, drums with contaminated material and trash; drums of hydraulic oil and furnace oil; six torpedoes; assorted parts and containers; and miscellaneous material. Spills of distilled HD and caustic soda occurred. The HD contaminated soil was drummed and stored in area	HISTORICAL: HD breakdown products (chloroacetic acid, urethane, 1,4-methane bis-isopropyl), LW, GB breakdown products (diisopropylmethyl phosphonate, dimethylphosphonic acid, phosphoric acid, methylphosphonic acid, diisopropyl phosphonate, superphosphoryl phosphonic acid, methylphosphonic acid, phosphate ester, triethyl ester); VX, sodium hydrazide salts, chemical agents*, phosgene, demilitarized salts, CAIS, hydraulic oil
NN0101	Valve Gate - west side of Upper Darby/SSA-1b	NAX01	0	NA	20	NA	NA	NA	NA	NA	NA
NN0102	Foundation - north of 534B/SP-5A-1a	NAX01	1	NA	19	NP	NP	NP	C (12) [13]	NA	NA
NN0103	Bathroom - north of 533/SP-A-1a	NAX01	1	NA	3	NP	NP	NP	C (9) [9]	NA	NA

Only use these tags: `<math>`, `<br>`, `<u>`, `<del>`, `<strong>`, `<em>`, `<code>`, `<chem>`

SSA: 1. 1982-1983; 2. 1984-1985; 3. 1986-1987; 4. 1988-1989; 5. 1990-1991; 6. 1992-1993; 7. 1994-1995; 8. 1996-1997; 9. 1998-1999; 10. 2000-2001; 11. 2002-2003; 12. 2004-2005; 13. 2006-2007; 14. 2008-2009; 15. 2010-2011; 16. 2012-2013; 17. 2014-2015; 18. 2016-2017; 19. 2018-2019; 20. 2020-2021; 21. 2022-2023; 22. 2024-2025; 23. 2026-2027; 24. 2028-2029; 25. 2030-2031; 26. 2032-2033; 27. 2034-2035; 28. 2036-2037; 29. 2038-2039; 30. 2040-2041; 31. 2042-2043; 32. 2044-2045; 33. 2046-2047; 34. 2048-2049; 35. 2050-2051; 36. 2052-2053; 37. 2054-2055; 38. 2056-2057; 39. 2058-2059; 40. 2060-2061; 41. 2062-2063; 42. 2064-2065; 43. 2066-2067; 44. 2068-2069; 45. 2070-2071; 46. 2072-2073; 47. 2074-2075; 48. 2076-2077; 49. 2078-2079; 50. 2080-2081; 51. 2082-2083; 52. 2084-2085; 53. 2086-2087; 54. 2088-2089; 55. 2090-2091; 56. 2092-2093; 57. 2094-2095; 58. 2096-2097; 59. 2098-2099; 60. 2100-2101; 61. 2102-2103; 62. 2104-2105; 63. 2106-2107; 64. 2108-2109; 65. 2110-2111; 66. 2112-2113; 67. 2114-2115; 68. 2116-2117; 69. 2118-2119; 70. 2120-2121; 71. 2122-2123; 72. 2124-2125; 73. 2126-2127; 74. 2128-2129; 75. 2130-2131; 76. 2132-2133; 77. 2134-2135; 78. 2136-2137; 79. 2138-2139; 80. 2140-2141; 81. 2142-2143; 82. 2144-2145; 83. 2146-2147; 84. 2148-2149; 85. 2150-2151; 86. 2152-2153; 87. 2154-2155; 88. 2156-2157; 89. 2158-2159; 90. 2160-2161; 91. 2162-2163; 92. 2164-2165; 93. 2166-2167; 94. 2168-2169; 95. 2170-2171; 96. 2172-2173; 97. 2174-2175; 98. 2176-2177; 99. 2178-2179; 100. 2180-2181; 101. 2182-2183; 102. 2184-2185; 103. 2186-2187; 104. 2188-2189; 105. 2190-2191; 106. 2192-2193; 107. 2194-2195; 108. 2196-2197; 109. 2198-2199; 110. 2200-2201; 111. 2202-2203; 112. 2204-2205; 113. 2206-2207; 114. 2208-2209; 115. 2210-2211; 116. 2212-2213; 117. 2214-2215; 118. 2216-2217; 119. 2218-2219; 120. 2220-2221; 121. 2222-2223; 122. 2224-2225; 123. 2226-2227; 124. 2228-2229; 125. 2230-2231; 126. 2232-2233; 127. 2234-2235; 128. 2236-2237; 129. 2238-2239; 130. 2240-2241; 131. 2242-2243; 132. 2244-2245; 133. 2246-2247; 134. 2248-2249; 135. 2250-2251; 136. 2252-2253; 137. 2254-2255; 138. 2256-2257; 139. 2258-2259; 140. 2260-2261; 141. 2262-2263; 142. 2264-2265; 143. 2266-2267; 144. 2268-2269; 145. 2270-2271; 146. 2272-2273; 147. 2274-2275; 148. 2276-2277; 149. 2278-2279; 150. 2280-2281; 151. 2282-2283; 152. 2284-2285; 153. 2286-2287; 154. 2288-2289; 155. 2290-2291; 156. 2292-2293; 157. 2294-2295; 158. 2296-2297; 159. 2298-2299; 160. 2300-2301; 161. 2302-2303; 162. 2304-2305; 163. 2306-2307; 164. 2308-2309; 165. 2310-2311; 166. 2312-2313; 167. 2314-2315; 168. 2316-2317; 169. 2318-2319; 170. 2320-2321; 171. 2322-2323; 172. 2324-2325; 173. 2326-2327; 174. 2328-2329; 175. 2330-2331; 176. 2332-2333; 177. 2334-2335; 178. 2336-2337; 179. 2338-2339; 180. 2340-2341; 181. 2342-2343; 182. 2344-2345; 183. 2346-2347; 184. 2348-2349; 185. 2350-2351; 186. 2352-2353; 187. 2354-2355; 188. 2356-2357; 189. 2358-2359; 190. 2360-2361; 191. 2362-2363; 192. 2364-2365; 193. 2366-2367; 194. 2368-2369; 195. 2370-2371; 196. 2372-2373; 197. 2374-2375; 198. 2376-2377; 199. 2378-2379; 200. 2380-2381; 201. 2382-2383; 202. 2384-2385; 203. 2386-2387; 204. 2388-2389; 205. 2390-2391; 206. 2392-2393; 207. 2394-2395; 208. 2396-2397; 209. 2398-2399; 210. 2400-2401; 211. 2402-2403; 212. 2404-2405; 213. 2406-2407; 214. 2408-2409; 215. 2410-2411; 216. 2412-2413; 217. 2414-2415; 218. 2416-2417; 219. 2418-2419; 220. 2420-2421; 221. 2422-2423; 222. 2424-2425; 223. 2426-2427; 224. 2428-2429; 225. 2430-2431; 226. 2432-2433; 227. 2434-2435; 228. 2436-2437; 229. 2438-2439; 230. 2440-2441; 231. 2442-2443; 232. 2444-2445; 233. 2446-2447; 234. 2448-2449; 235. 2450-2451; 236. 2452-2453; 237. 2454-2455; 238. 2456-2457; 239. 2458-2459; 240. 2460-2461; 241. 2462-2463; 242. 2464-2465; 243. 2466-2467; 244. 2468-2469; 245. 2470-2471; 246. 2472-2473; 247. 2474-2475; 248. 2476-2477; 249. 2478-2479; 250. 2480-2481; 251. 2482-2483; 252. 2484-2485; 253. 2486-2487; 254. 2488-2489; 255. 2490-2491; 256. 2492-2493; 257. 2494-2495; 258. 2496-2497; 259. 2498-2499; 260. 2500-2501; 261. 2502-2503; 262. 2504-2505; 263. 2

### 3. Inventory List of Rocky Mountain Arsenal Structures.

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NUMBER	STRUCTURE DESCRIPTION / 6-1 DIV AREA - Subarea	YEAR BUILT/ MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (yd <sup>3</sup> )	ESTD MATERIAL TOTAL VOL * (yd <sup>3</sup> )	STRUCTURE MATERIALS * (ESTIMATED MAXIMUM DIMENSIONS IN FEET)				FUNCTIONAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
V0104	Flare Tower - north of 571B, northwest of 571-S/PSA-1a,11	NA01	1	NA	17	NP	S (0.02)	NP	C (6) [1/1]	NA	NA
V0105	Gas Meter House - southwest of 508/SPSA-1a	NA01	1	59	5	CM (0.06)	CM (0.06)	NP	C (6) [5]	NA	NA
V0106	Fertilizer and Waste Loading Facility - north of 72B/ SPSA-1g	NA01	2	43	77	CA (0.3)	CA (0.3)	NP	C (6) [75]	NA	NA
V0107	Metal Shed - west of 733B/SPSA-5b	NA01	1	102	1	CM (0.06)	CM (0.06)	NP	NP	NA	NA
N0108	Metal Shed - west of 733C/SPSA-5b	NA01	1	102	1	CM (0.06)	CM (0.06)	NP	NP	NA	NA
N0109	Guard Station - northeast of 732/SPSA-5b	NA01	NA	NA	1	NP	PW (8)	NP	C (4) [1]	NA	NA
N0110	Metal Shed - south of 521B/SPSA-1a	NA01	1	26	2	CM (0.06)	CM (0.06)	NP	C (6) [2]	NA	NA
N0111	Three Metal Incinerators - northwest of 541/SPSA-1a	NA01	1	NA	150	NP	PW (4) BR (20)	NP	C (24) [148]	NA	NA
N0112	Stack Observation Station - east of 527/SPSA-1b	NA01	1	NA	10	NA	NA	NA	NA	NA	NA
N0113	Two Metal Sheds - south of 474/SPSA-1a	NA01	1	72	27	CM (0.06)	CM (0.06) [0.2]	NP	C (4) [26]	NA	NA
N0114	Wooden Hut - southwest of 461/SPSA-2a	NA01	1	4	2	A/C	WD [4]	NP	NP	NA	NA
N0115	Flare Tower - north of Lima Pond/SPSA-1g	NA01	1	NA	17	NP	S (0.2)	NP	C (6) [17]	NA	NA
N0116	Long Metal Shed - south of 544/SPSA-1g	NA01	1	NA	47	CM (0.06) [1]	CM (0.06) [1]	NP	NP [2]	NA	NA

A printed and electronic copy is provided as the last page of this table.  
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APR 93, 1-521m

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION / STUDY AREA SUBAREA	YEAR BUILT / MAP SECTION	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (yd <sup>3</sup> )	ESTIMATED TOTAL VOLUME * (yd <sup>3</sup> )	STRUCTURE MATERIALS * (ESTIMATED MAXIMUM THICKNESS IN INCHES)				HISTORICAL USE *	POTENTIAL ASSOCIATED CHEMICALS *
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
NN0117	Two Sheds - southwest of 657/SPSA-2C	NA01	1	79	4	NP	WD (8) [40]	NP	NP	NA	NA
NN0201	Concrete Silo - northwest of 254/SPSA-2C	NA02	1	132	350	NP	C	NP	NA [352]	NA	NA
NN0202	Brick Structure - east of 361/SPSA	NA02	1	37	15	A/C	BR (9)	NP	C (9) [14]	NA	NA
NN0203	Fire Equipment Storage - southwest of 254/SPSA-3a	NA02	1	24	29	CM (0 06)	CM (0 06)	NP	C (6) [29]	NA	NA
NN0204	Coal Hopper - north of 334/SPSA-3a	NA02	1	NA	38	NP	PW (10)	NP	C (6) [16]	NA	NA
NN0205	Brick Valve House - south of 321B/SPSA-3a	NA02	1	4	24	C (4) [2]	BR (8)	NP	C [22]	NA	NA
NN0301	Metal Shed - north of 618/WSA	NA03	1	B6	1	CM (0 06)	CM (0 06)	NP	NP	NA	NA
NN0302	Metal Shed - north of 618/WSA	NA03	1	136	1	NA	NA	NA	NA	NA	NA
NN0303	Metal Shed - north of 619/WSA	NA03	1	NA	1	NA	NA	NA	NA	NA	NA
NN0304	Metal Shed - north of 619/WSA	NA03	1	NA	1	NA	NA	NA	NA	NA	NA
NN0501	Abandoned School/ESA	NA05	0	NA	45	NP	NP	NP	C (12) [25]	NA	NA
NN0601	Loading Dock - west of 866/ESA-3b	NA06	NA	NA	150	NP	NP	NP	WD Piers (8) [157]	NA	NA
NN0602	Long Metal Shed - west of 865/ESA-3b	NA06	1	1 092	1	NA	NA	NA	NA [1]	NA	NA

NOTE: A - wood and aluminum; B - brick; C - concrete; D - steel; E - steel; F - steel; G - steel; H - steel; I - steel; J - steel; K - steel; L - steel; M - steel; N - steel; O - steel; P - steel; Q - steel; R - steel; S - steel; T - steel; U - steel; V - steel; W - steel; X - steel; Y - steel; Z - steel.

CASA ENGINEERING, Inc. 10/1/04

Rev. 01/04/04, 1:12pm

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION STUDY AREA SUBAREA	YEAR BUILT MAP SECTION	NO OF LEVELS	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	FSR MAILED TOTAL AREA - (sq ft)	STRUCTURE MATERIALS (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
NA0003	Metal Shed - east of J67A/ESA	NA006	1	170	1	NA	NA	NA	NA	NA	NA
NA0001	Construction Structure - 1,000 ft southeast of B6h and A Street/WSA	NA009	NA	NA	8	NP	NP	NP	C (6), [6]	NA	NA
NN0902	Survey Tower - north of Post Office/WSA	NA009	NA	NA	1	NA	NA	NA	NA [1]	NA	NA
NA0903	VORTAC Station/WSA	NA009	0	NA	100	C [19]	MB [15]	NA	C (4) [4], [4]	NA	NA
NN1201	Long Metal Shed - 25 ft west of 846/SSA	NA/12	1	283	4	NA	NA	NA	WD [1]	NA	NA
NN1202	Square Metal Shed - west of 846/SSA	NA/12	1	121	2	CM (0.06)	CM (0.06)	NP	WD (4) [2]	NA	NA
NN1203	Wooden Shed - west of 846/SSA	NA/12	1	62	5	A/C [2]	WD [1.6]	WD [0.3]	WD [0.6]	NA	NA
NN1204	Wooden Frame - south of 846/SSA	NA/12	NA	NA	4	NP	NP	NP	C (6) [3]	NA	NA
NN1205	Wooden Shed - south of 846/SSA	NA/12	1	25	3	A/C [1]	WD (1)	NP	C (4) [1]	NA	NA
NN1206	Shooting Bunker - south of 846/SSA	NA/12	1	17	6	C (4) [1]	C (5)	C (10)	C (6) [5]	NA	NA
NN1207	Shooting Bunker Number 2 - south of 846/SSA	NA/12	1	17	14	C (4) [1]	C (5)	C (16)	C (6) [11]	NA	NA
NN1208	Brick Structure - 900 ft southwest of 846/SSA	NA/12	1	26	9	WD [1]	BR (6)	NP	C (12) [4]	NA	NA

NOTE: A symbol and description key is provided on the last page of this table.  
 USARMC Rocky Mountain Arsenal HCL  
 New Orleans, LA 70160

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

Page 132 of 135.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION (STUDY AREA - 846/SSA)	YEAR BUILT (MAP SECTION)	NO. OF LEVELS	ESTIMATED TOTAL AIR VOLUME * (ft <sup>3</sup> )	ESTIMATED TOTAL MATTER * (lb <sup>3</sup> )	STRUCTURE MATRICES * (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN ft <sup>3</sup> )				HISTORICAL USE*	POTENTIAL ASSOCIATED CHEMICALS*
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
NN1209	Concrete Bunker - 1,100 ft <sup>2</sup> south of 846/SSA	NA/12	1	29	14	NP	MB (8)	NP	C (8) [13]	NA	NA
NN1210	Concrete Bunker - 1,250 ft <sup>2</sup> south of 846/SSA	NA/12	1	17	10	WD	MB (8)	NP	C (6) [9]	NA	NA
NN1211	Concrete Bunker - 1,300 ft <sup>2</sup> south of 846/SSA	NA/12	1	29	14	NP	MB (8)	NP	C (8) [15]	NA	NA
NN1212	Concrete Bunker - 1,350 ft <sup>2</sup> south of 846/SSA	NA/12	1	14	6	C (5) [1]	C (6)	NP	C (4) [6]	NA	NA
NN1213	AMSACMS Maintenance Shop - north of 841/SSA	NA/12	1	6,561	780	A/C [63]	MB (12)	MB (12)	C (6) [713]	NA	NA
NN2001	Antenna Installation - 1/2 mile north of 9th Street/ESA	NA/20	1	9	15	NP	FG	NP	C (9) [15]	NA	NA
NN2002	Tank Pad - north of 9th St/2/3 mile east of F Street/ESA	NA/20	1	NA	14	NP	NP	NP	C (12) [14]	NA	NA
NN2301	Abandoned Water Purification Plant/NCSCA	NA/23	1	NA	59	NP	C (1)	NP	NA [59]	NA	NA
NN2401	Concrete Structure - east of Brg/NCSCA	NA/24	1	4	3	C (6) [1]	C (6)	NP	C (6) [3]	NA	NA
NN2402	Wooden Shed - north of Tricking Filters/NCSCA 8b	NA/24	1	47	7	A/C [1]	WD (1)	NP	C (6) [5]	NA	NA
NN2403	Two Tricking Filters - south of 39/NCSCA	NA/24	1	NA	1,800	NP	NP	NP	C (12) [1,773]	NA	NA
NN2404	Inhoff Tank - south of 391	NA/24	0	410	408	NA	[141]	NA	C [394] WD [10]	NA	NA
NN2405	Antenna Installation - north of 836/NCSCA 8a	NA/24	1	10	12	NP	FG	NP	NA [12]	NA	NA

NOTE: A symbol and acronym list is provided at the end of this table.

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Rev. 07/04/01 1.0/01

Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION <sup>1</sup> STUDY AREA - Subarea	YEAR BUILT <sup>2</sup> MAP SECTION	NO OF LEVELS <sup>3</sup>	ESTIMATED TOTAL AIR VOLUME - (yd <sup>3</sup> )	EST. MATED TOTAL AREA - (yd <sup>2</sup> )	STRUCTURE MATERIALS <sup>4</sup> (ESTIMATED MATERIAL THICKNESS IN INCHES) AND VOLUME IN YD <sup>3</sup>				HISTORICAL USE <sup>5</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>6</sup>
						ROOF	WALLS EXTERIOR	WALLS INTERIOR	FOUNDATION		
NN2501	Shed - northwest of 1618/ NPSA	NA24	1	NA	8	A/C [3]	WD	P(0)	C (4) [4]	NA	NA
NN2502	Gas Pump and Pad - northeast of 1618/NPSA	NA25	1	33	32	NP	WD (6)	NP	C (6) [4]	NA	NA
NN2503	Pumping Station - south of 1510/NPSA 7	NA25	1	NA	3	NP	NP	NP	C (12) [3]	NA	NA
NN2601	Decom Pad/Tank - northwest of Basin F/NCSA-4a, 4b	NA26	1	NA	58	NP	CM [0.3]	NP	C (8) [56]	NA	NA
NN2602	Valve Valve - north End of Reservoir C/NCSA-2a	NA26	1	31	19	C (6) [1]	C (15)	NP	C (15) [18]	NA	NA
NN3001	Metal Shed - east of 853/ESA 5	NA30	1	NA	1	NA	NA	NA	NA	NA	NA
NN3002	Metal Shed - east of 853/ESA 5	NA30	1	NA	1	NA	NA	NA	NA	NA	NA
NN3101	Metal Shed - north of 1734/ ESA	NA31	1	27	1	CM (0.06)	CM (0.06)	NP	C Pairs (10)	NA	NA
NN3102	Three Sets of Shed Siding - 1,100 ft southwest of 1734/ ESA 3d	NA31	1	NA	2,400	NA	NA	NA	NA	NA	NA
NN3103	Storage Bulking/Toxic Storage Yard/ESA 3d	NA31	1	563	1	CM (0.06)	CM (0.06)	NP	NP	NA	NA
NN3104	Shack - west of Berms/Toxic Storage Yard/ SA	NA31	1	18	1	NP	CM	NP	NP	NA	NA
NN3105	Shed - northwest end of Berms/Toxic Storage Yard/ ESA 3d	NA31	1	910	1	WD (0.5)	WD (0.5)	NP	WD (2)	NA	NA

1E. A symbol and acronym for is provided on the last page of this table.  
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Table 3. Inventory List of Rocky Mountain Arsenal Structures.

STRUCTURE NUMBER	STRUCTURE DESCRIPTION <sup>1</sup> STORY AREA - SQUARE FEET	YEAR BUILT <sup>2</sup>	NO. OF LEVELS <sup>3</sup>	ESTIMATED TOTAL AIR VOLUME <sup>4</sup> (ft <sup>3</sup> )	ESTIMATED TOTAL AIR VOLUME <sup>5</sup> (ft <sup>3</sup> )	STRUCTURE MATRICES <sup>6</sup> (ESTIMATED MAXIMUM THICKNESS IN INCHES) AND (VOLUME IN YD <sup>3</sup> )				HISTORICAL USE <sup>7</sup>	POTENTIAL ASSOCIATED CHEMICALS <sup>8</sup>
						ROOF	EXTERIOR WALLS	INTERIOR WALLS	FOUNDATION		
NN3106	Shed - northeast end of Berms/Toxic Storage Yard/ESA-3d	NA/31	1	1,394	2	CM (0.06) [1]	CM (0.06)	NP	NA [1]	NA	NA
NN3107	Antenna Station/Toxic Storage Yard/ESA	NA/31	1	9	3	NP	NP	NP	C (4) [3]	NA	NA
NN3108	Shed - southwest end of 1st Berms/Toxic Storage Yard/ESA-3d	NA/31	1	27	1	CM (0.06)	CM (0.06)	NP	NA [1]	NA	NA
NN3109	Shed - southeast end of 1st Berms/Toxic Storage Yard/ESA-3d	NA/31	1	1,394	2	CM (0.06) [1]	CM (0.06)	NP	NA [1]	NA	NA
NN3501	Three Communication Antenna Plus/NCSA	NA/35	1	NA	6	C (9) [1]	C (6)	NP	C (6) [5]	NA	NA
NN3601	Incinerator - 500 ft northwest of 834/CSA	NA/36	1	13	26	NP	C (12)	NP	NA [26]	NA	NA
NN3602	Incinerator - 1,000 ft southeast of 834/CSA-1c	NA/36	1	22	3	NP	C (6)	NP	C (6) [3]	NA	NA
NN3603	Metal Shed - northwest of 725/CSA-2a	NA/36	1	36	4	A/C [1]	CM (0.06) [1]	P/D	WD (5) [3]	NA	NA
NN3604	Metal Shed - southwest of 725/CSA-2a	NA/36	1	68	6	CM (0.06)	CM (0.06) [1]	NP	C (6) [5]	NA	NA
NN3605	Metal Shed - southeast of 725/CSA-2a	NA/36	1	60	2	CM (0.06)	CM (0.06)	NP	NA [1]	NA	NA
NNDP0101	Storage Shed/SPSA-1b	NA/01	1 <sup>1</sup>	44'	NA	NA	NA	NA	NA	The structure is used for storage <sup>1</sup> .	No historically associated chemicals <sup>1</sup>
TW-13	Open Storage - north of 1611/NPSA	NA/25	1	NA	120	NA	NA	NA	NA	NA	NA

NOTE: A symbol and acronym list is provided on the last page of this table.

OSHA/UR-CPH/FRT/23FR.OPM  
Rev. 07/06/03, 1.5cm

**Table 3. Inventory List of Rocky Mountain Arsenal Structures.**

**NOTE:** This table does not include links or suballens

SOURCES: a Edusco, 1988/RTIC 88208RU2, except where noted  
b HISTORICAL. Edusco, 1988/RTIC 88208RU2

HISTORICAL EDASCO, 1988/ATIK 88306R02  
SAMPLING

DUM - Elvaco, 1988/ATIC 88206A02

Liquids • Elvacore, 1986/41 MC 88308/A02  
Liquids • Elvacore, 1986/41 MC 88308/A02

Fertilized Soil (0-2 in), Nitrogenous anhydrous

Surfacted 5- $\beta$  (0-2  $\mu$ ); Nonvolatiles analysis

Subsurface Soil (Voluble analytes dated)

Groundwater (Volatile analytes detected)

Afr - Woodward-Clyde, 1693a/ATC 936

Dust/Vacuum - Woodward-Clyde, 1993.

DustWipe - Woodward-Clyde, 1993 &amp; RE

Ebasco, INC. 149-RTIC 89106P05

Woodward-Clyde, 1993; ATIC 93095-PA0

Elbasco, 1987a

Warren, 1993

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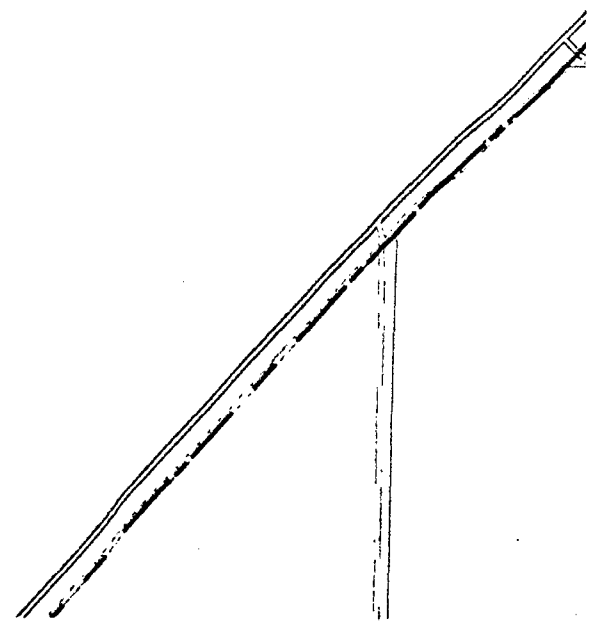
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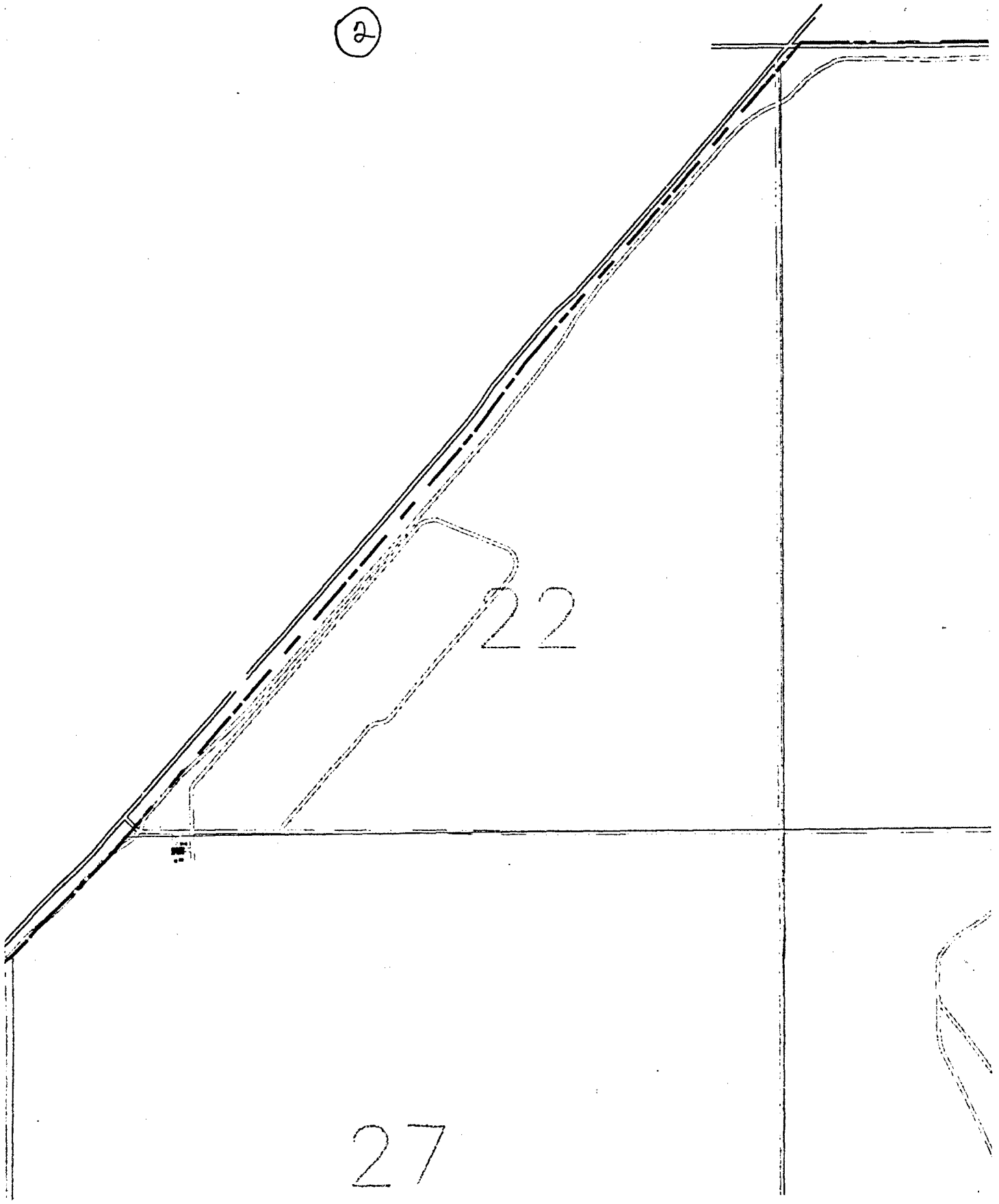
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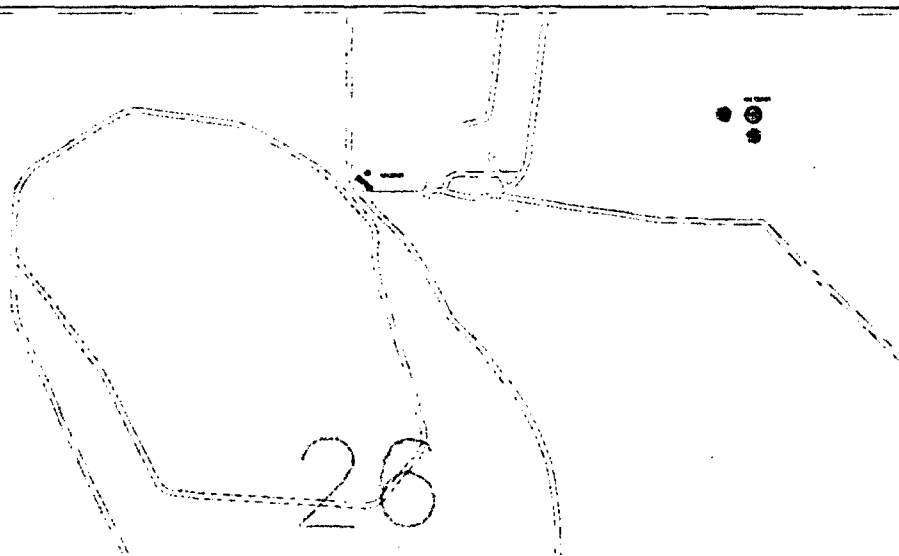
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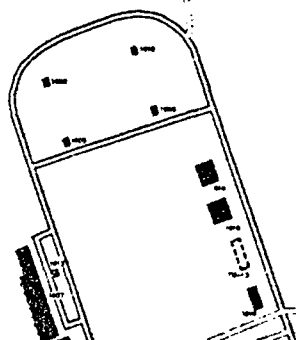
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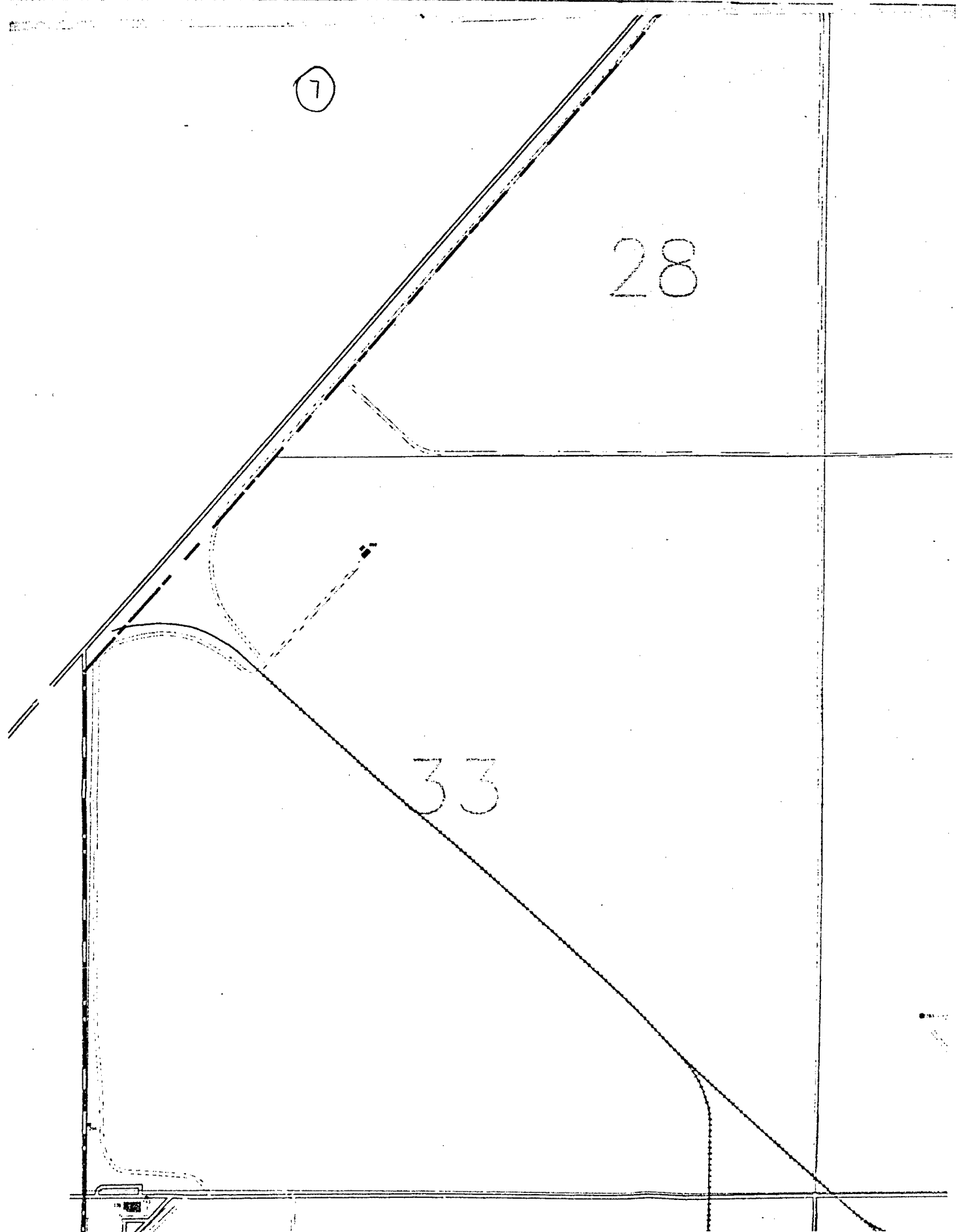


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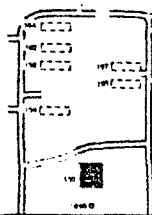
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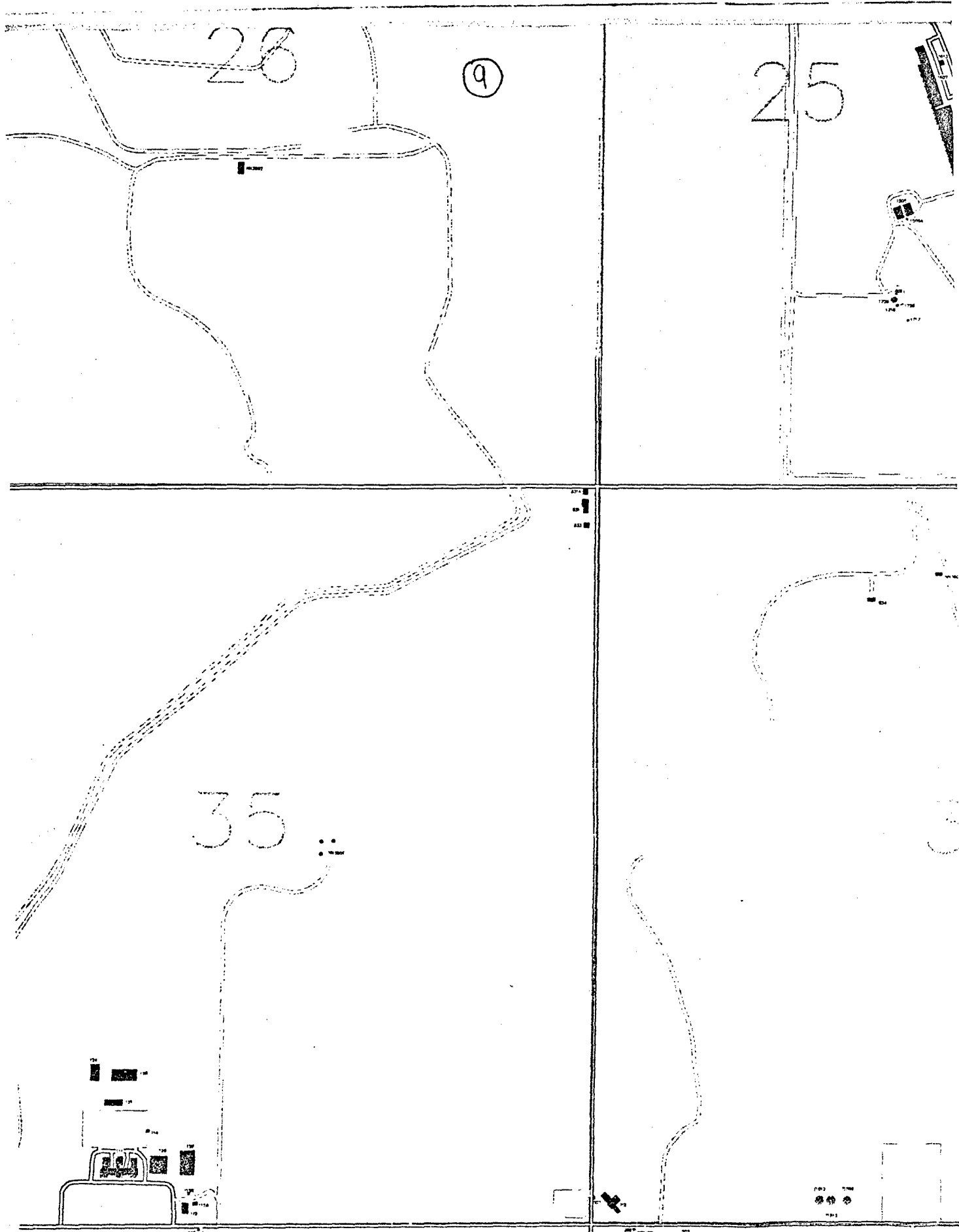


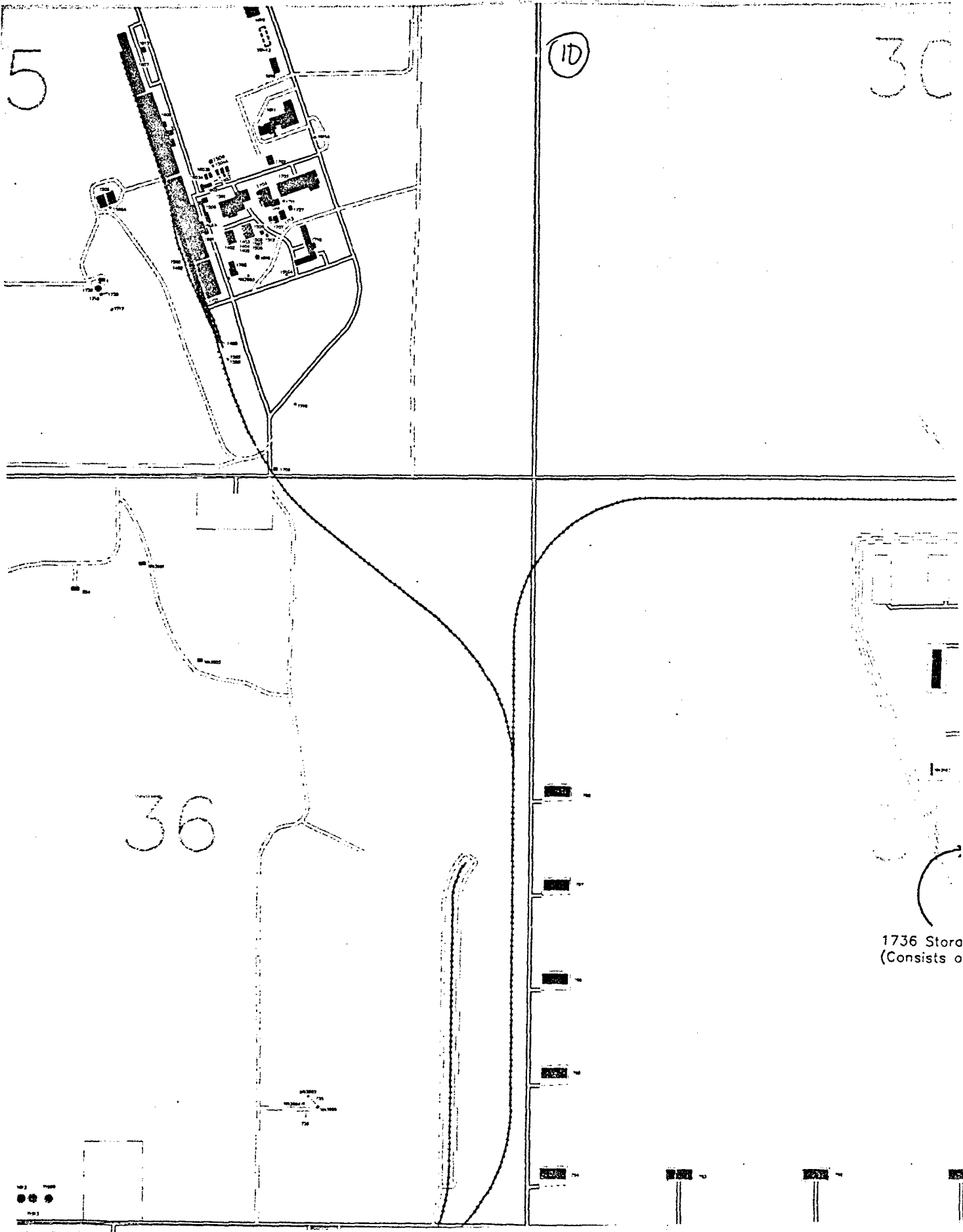
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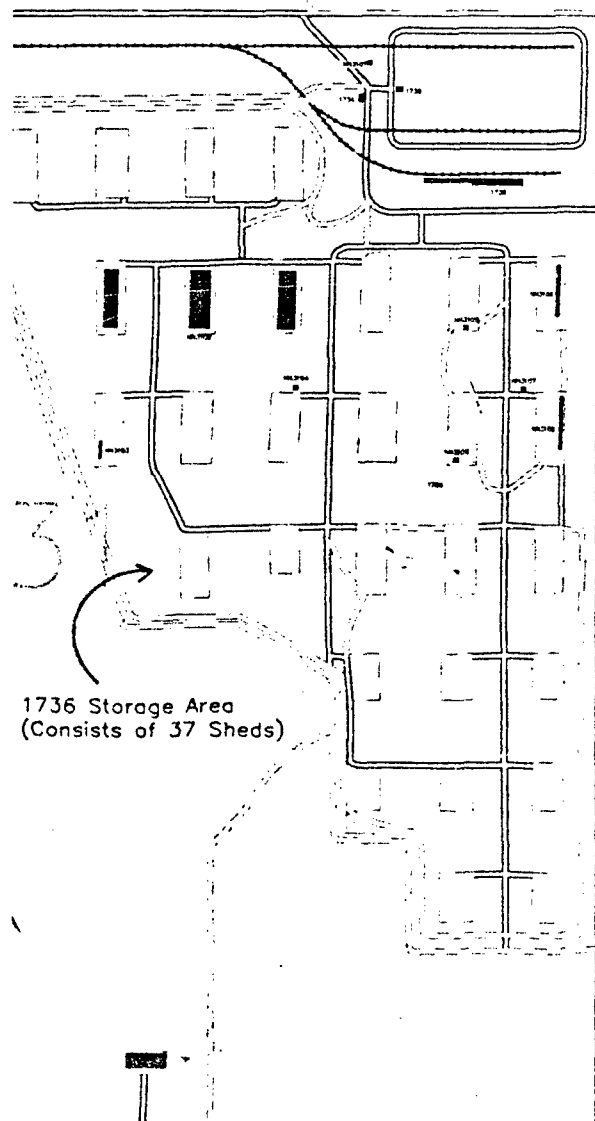


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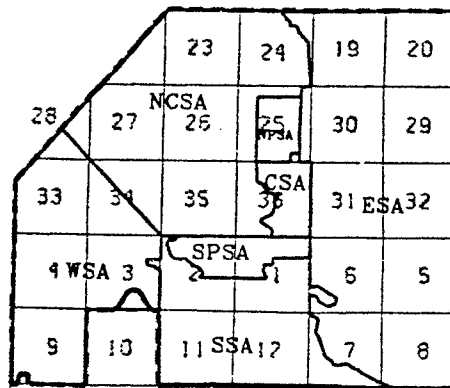
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# STUDY AREA MAP



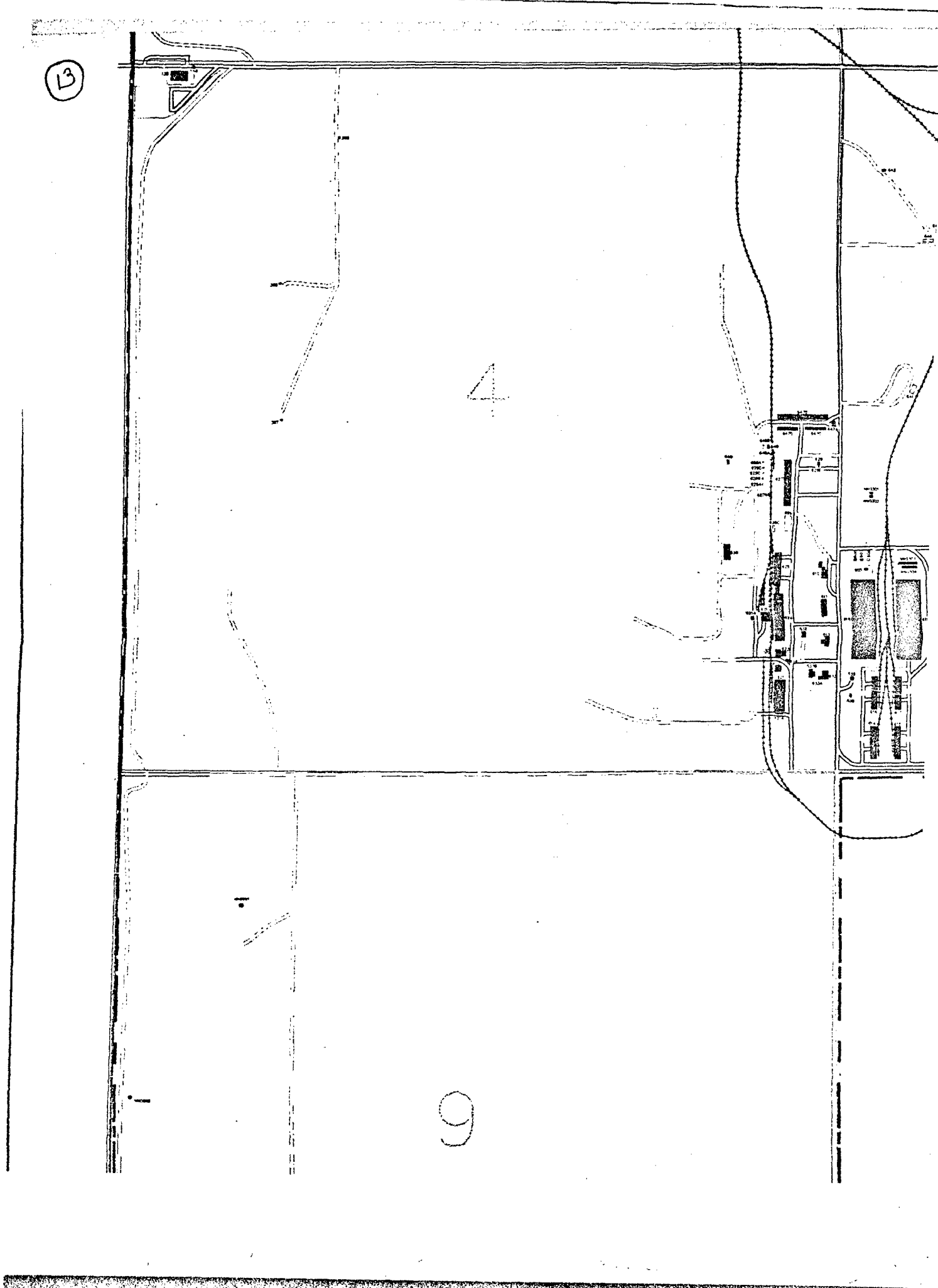
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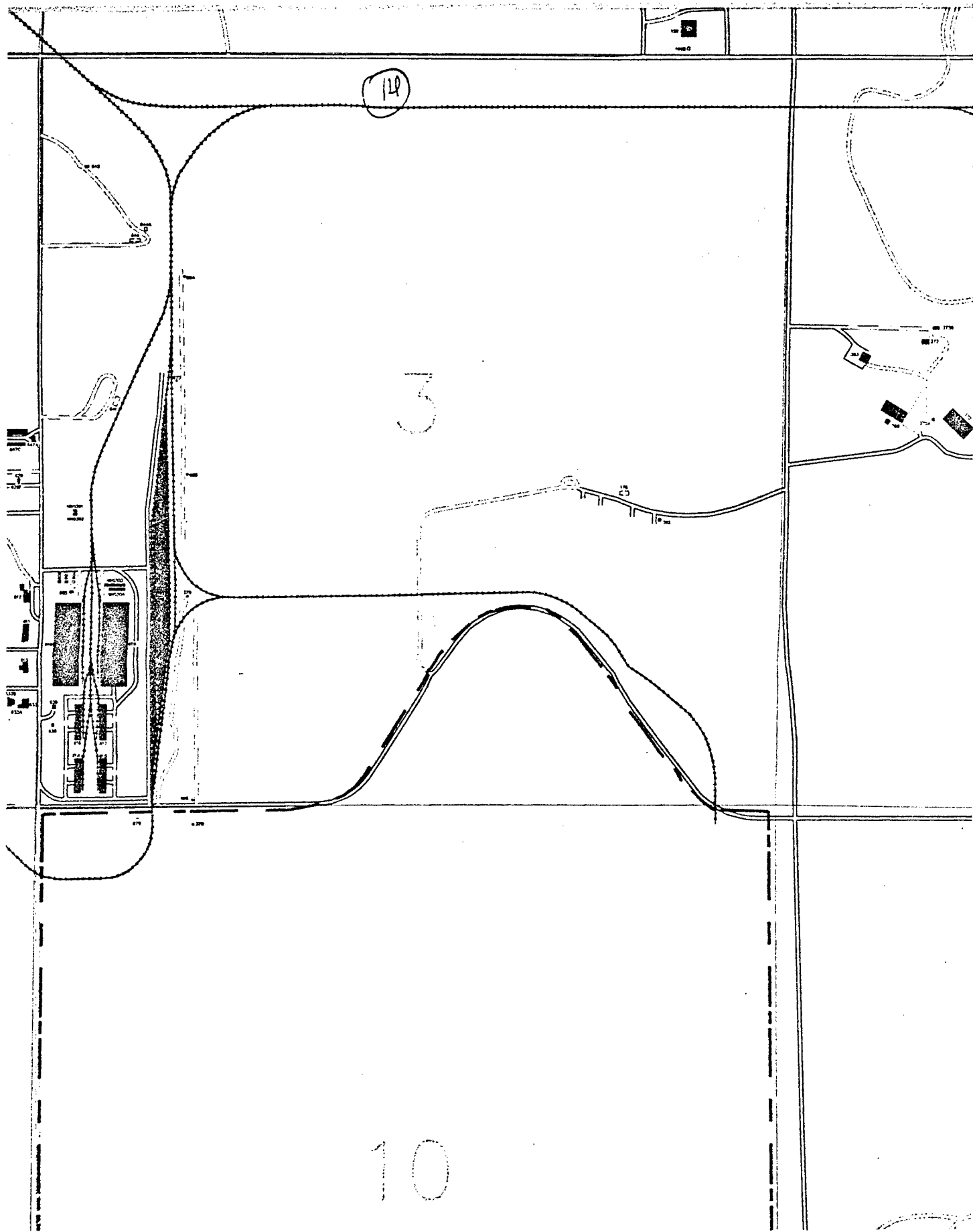
- CSA -- Central Study Area
- ESA -- Eastern Study Area
- NCSA -- North Central Study Area
- NPSA -- North Plants Study Area
- SPSA -- South Plants Study Area
- SSA -- Southern Study Area
- WSA -- Western Study Area

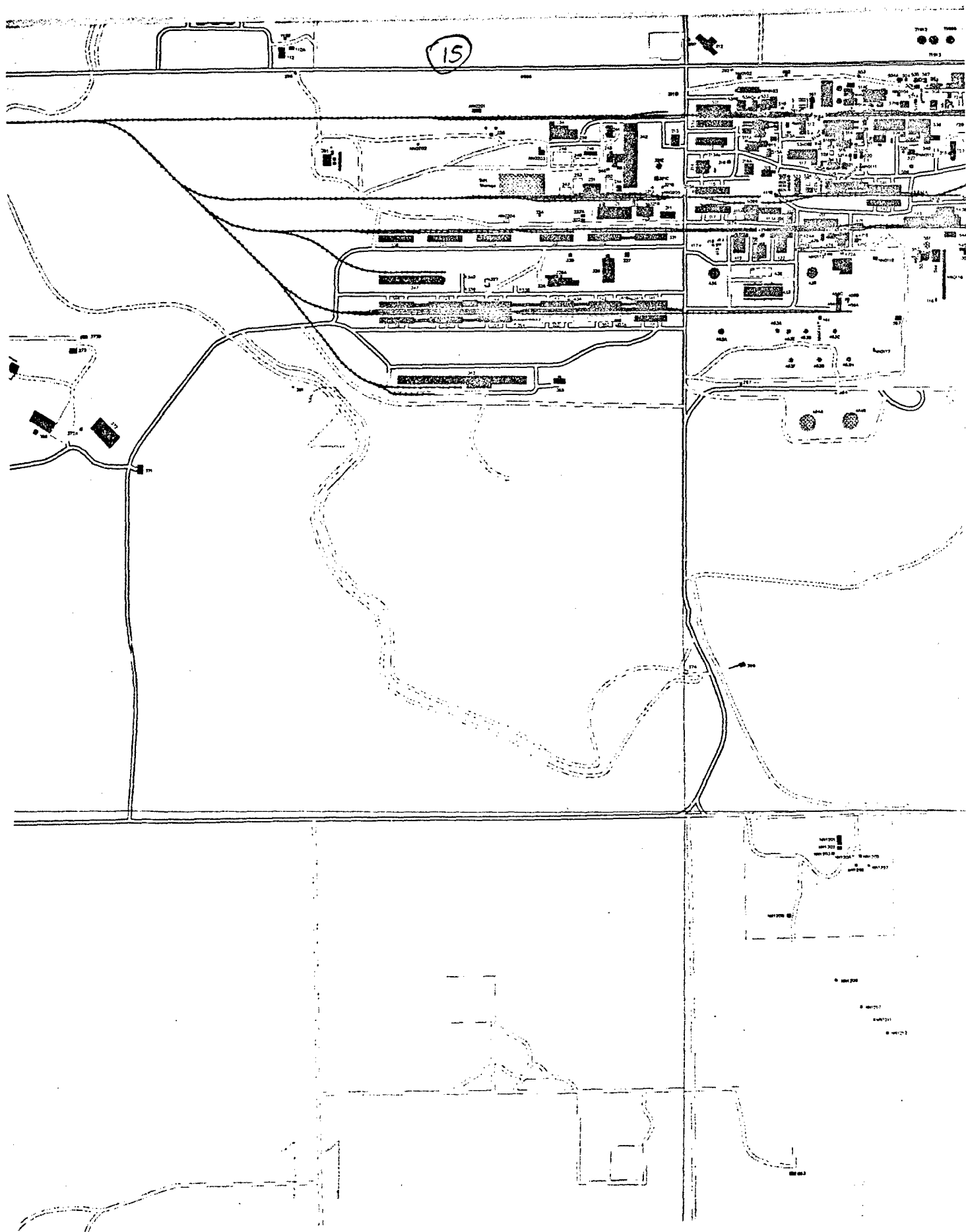
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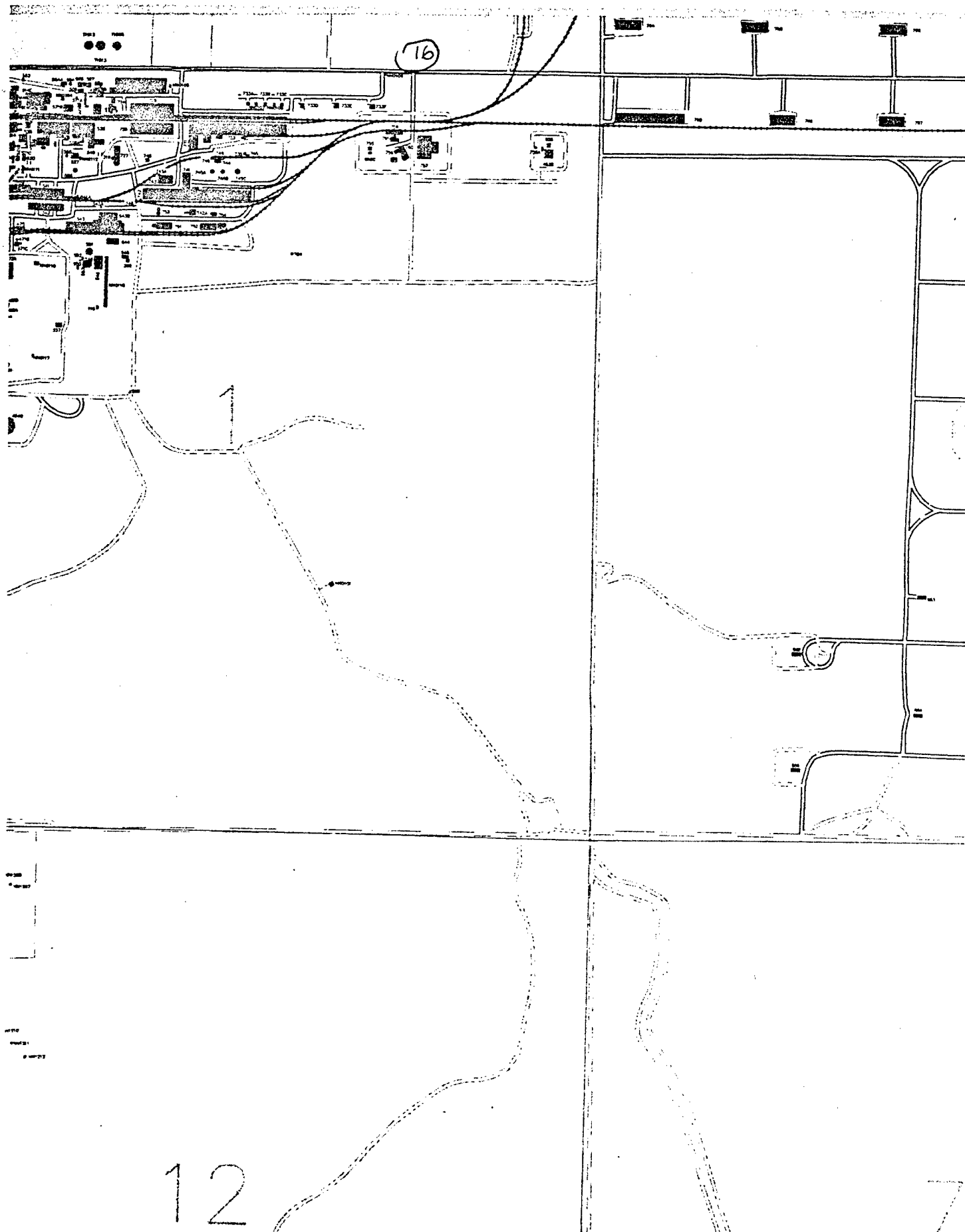
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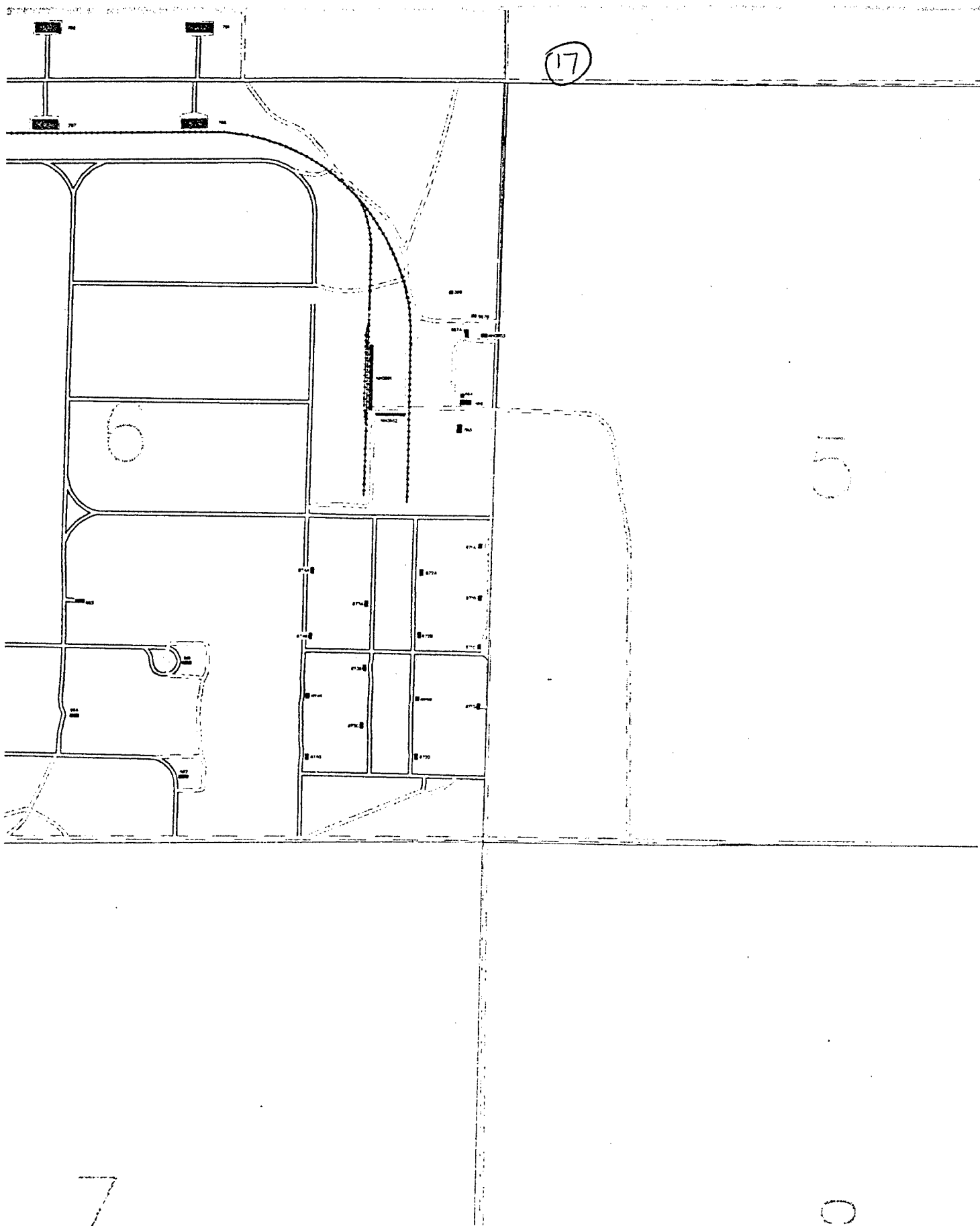
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Legend:



Structures Where Protocol  
May Be Used



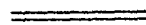
Other Structures (e.g. Tanks)



Foundation

312

Building Number



Roads



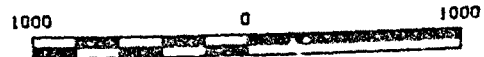
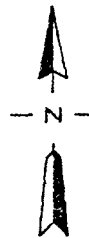
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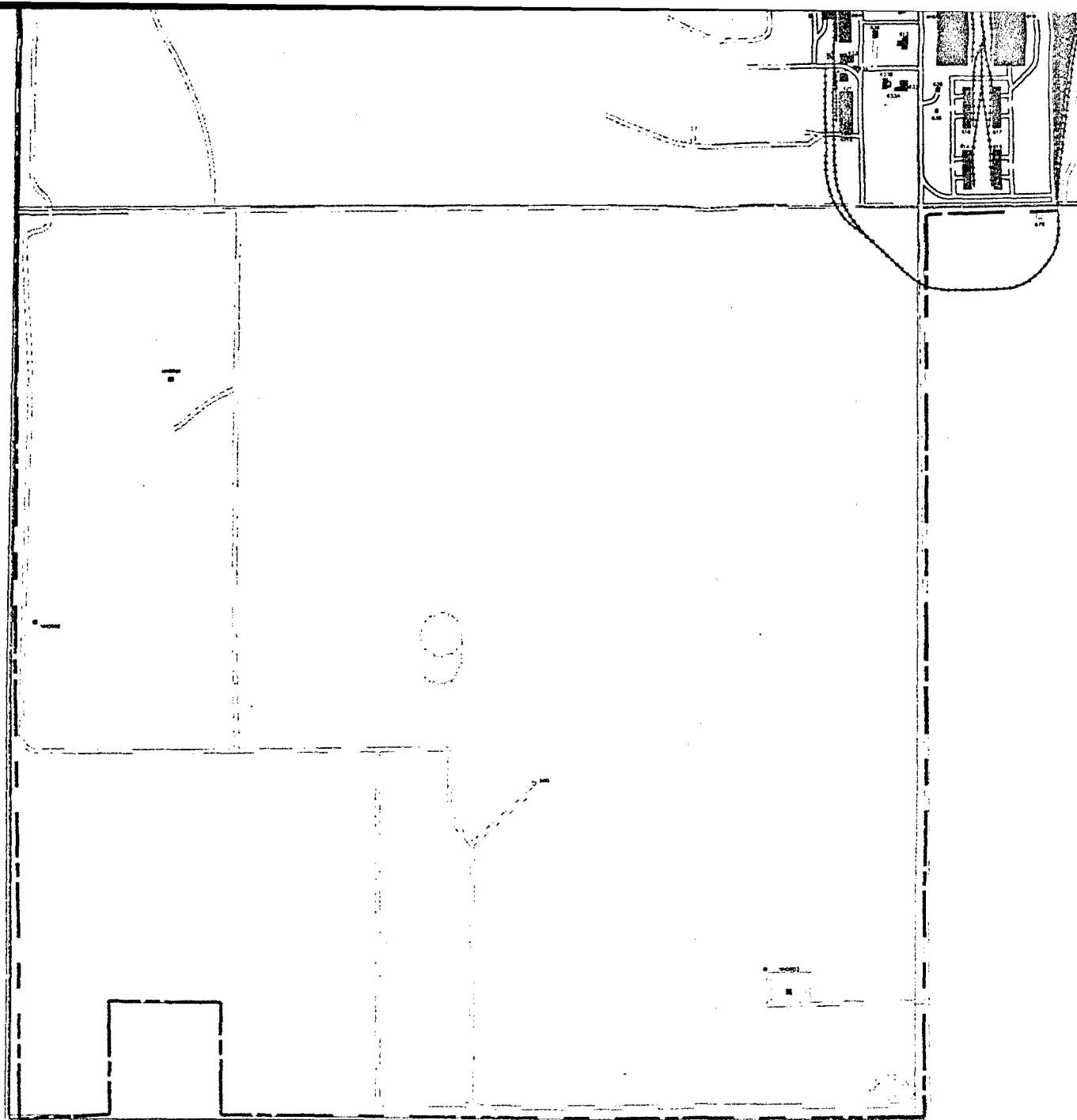


RMA Boundary

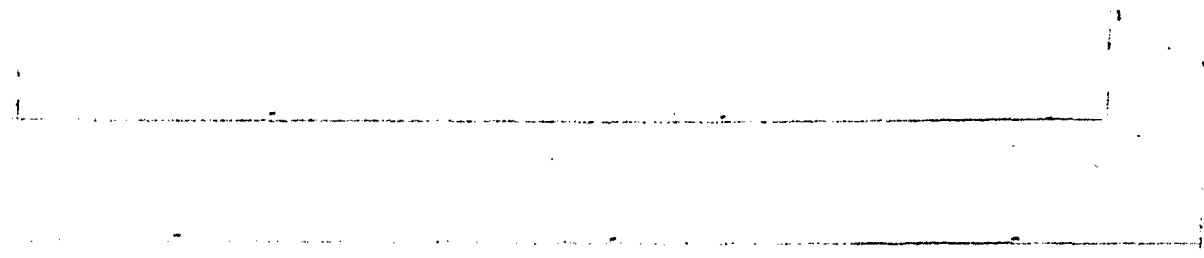
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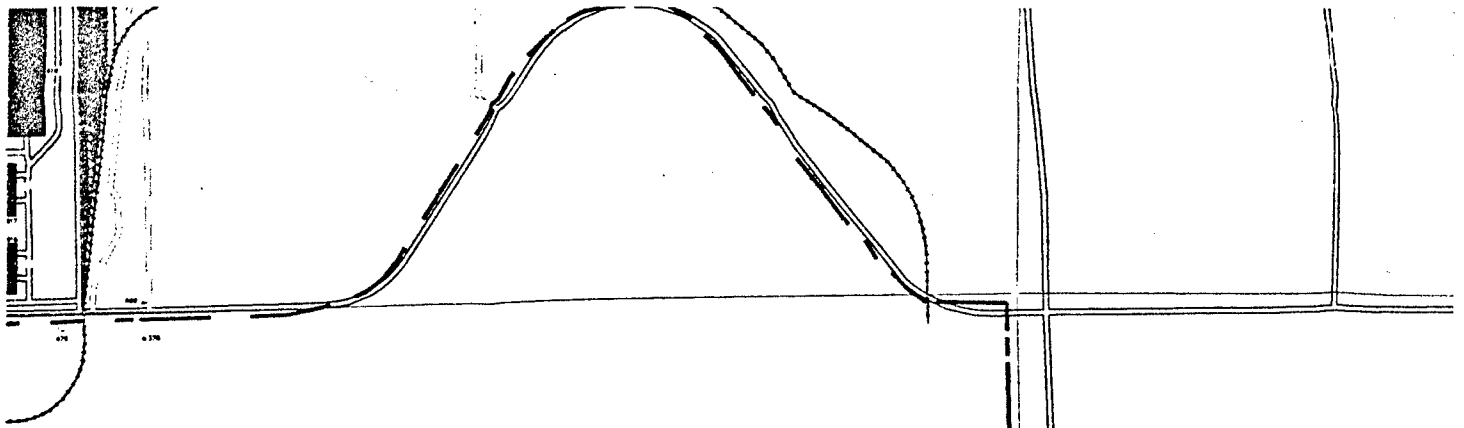
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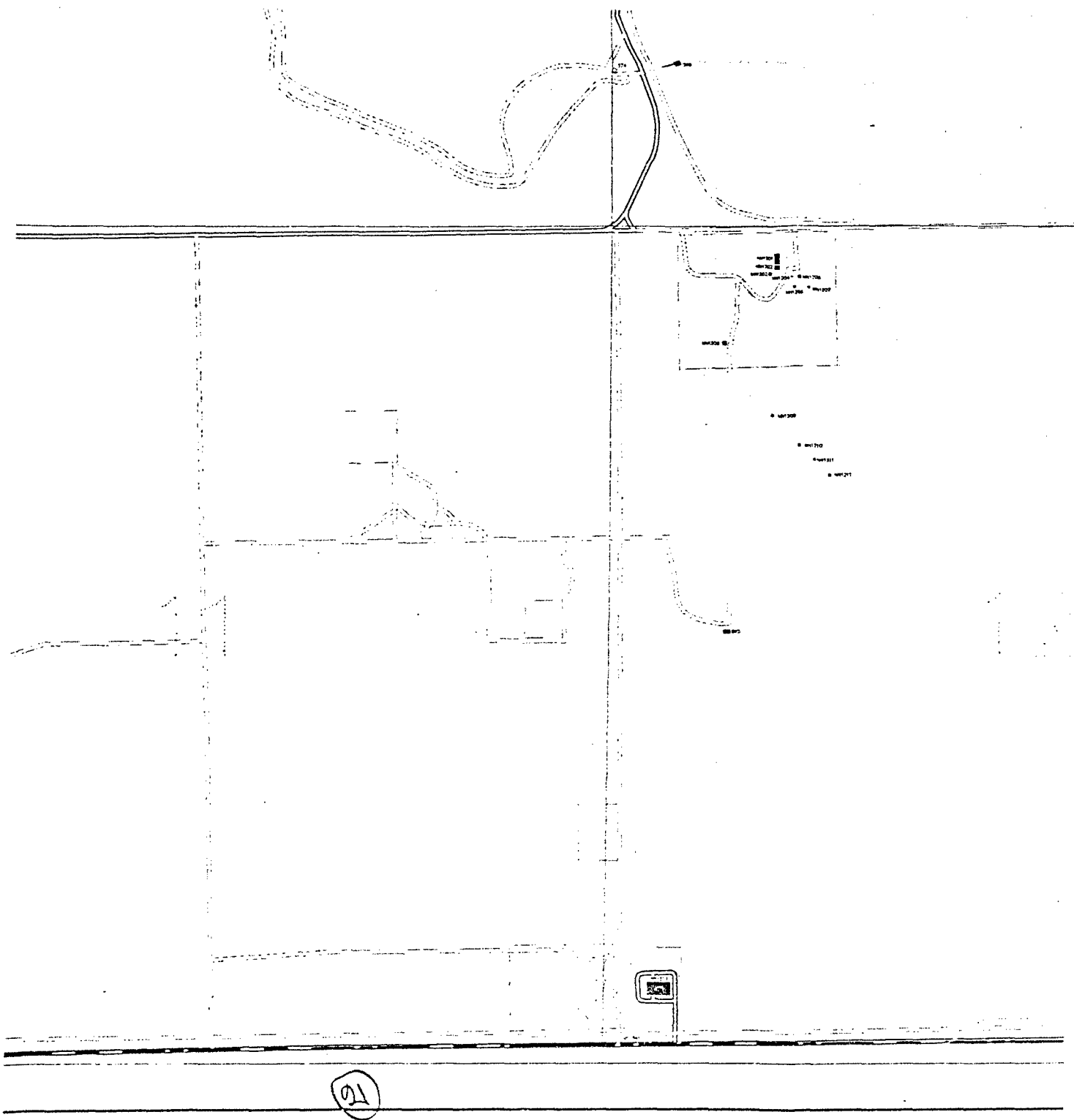
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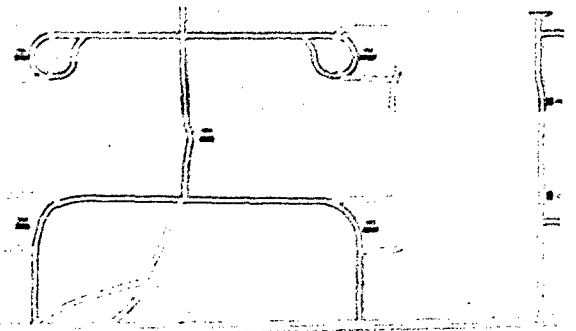




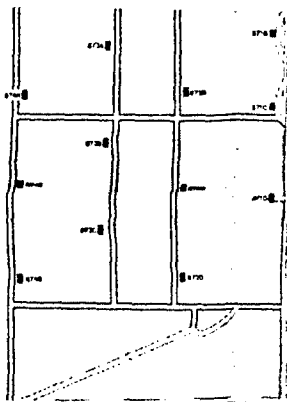
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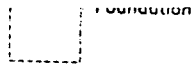


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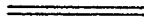
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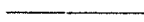


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Building Number



Roads



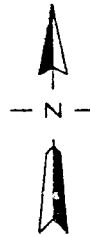
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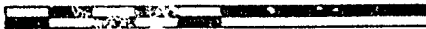
RMA Boundary

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SCALE IN FEET

SOURCE: Ebasco, 1988/RTIC 88306R02 (Modified)

Prepared for:

U.S. Army Program Manager  
for Rocky Mountain Arsenal

Revised: 06/30/03

Plate 1

Rocky Mountain Arsenal  
Structures Location Map

Prepared by: AGEISS Environmental Inc.

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